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Nº1 COUNTRIES OF THE WORLD

Edited by J.A. Hammerton 17.6/8



COUNTRIES OF THE WORLD will be completed in about 40 Fortnightly Parts

Contents of this Part

THE EDITOR EXPLAINS	- - - - -	
THE ROMANCE OF TRAVEL	- - - - -	<i>Joseph Conrad</i>
EIGHT KEY MAPS IN TWO COLOURS		
ABYSSINIA & ERITREA Map & 16 Photographs	- - - - -	<i>Charles F. Rey</i>
AFGHANISTAN	- - " " 13 - - - - -	<i>Lt.-Col. Etherton</i>
AFRICA	- - - - " - - - - -	<i>Evans Lewin</i>
ALASKA	- - - - - , 23 - - - - -	<i>Vilhjalmur Stefansson</i>
ALBANIA	- - - - " " 19 - - - - -	<i>Henry Baerlein</i>
ALSACE-LORRAINE	- - " , 23 - - - - -	<i>Percy Allen</i>
AMERICA, NORTH	- - " - - - - -	<i>B. C. Wallis</i>

PHOTOGRAVURE SECTION (8 pages), Alsace-Lorraine

FULL COLOUR SECTION (8 pages), Afghanistan

Special Cover Design in full Colour

From the Editor's Desk

THE FLEETWAY HOUSE, FARRINGTON STREET
LONDON, E.C.4

IF one had cared to depart from the strictly alphabetical arrangement of the contents of **COUNTRIES OF THE WORLD** it would have been possible to present a first number even more attractive than that which you hold in your hand. It is inevitable that certain countries and some towns are more interesting than others and provide better opportunities not only for pictorial representation but for the descriptive writer.

otherwise have been made in order to adhere to that system. Yet in one respect only does Part I of **COUNTRIES OF THE WORLD** fall short of being representative: it has not been possible to include in it the description of a city, as all the chapters which it does contain have been reduced to a minimum without providing the space necessary to deal with the city of Amsterdam, which comes first in the list of those that have been selected for description.

Pros and Cons of an Alphabetical Plan

BY the crude process of selecting the most interesting places for first treatment one could be sure that the opening parts of a serial would not fail in attractiveness; but in all the publications with which the present editor has been associated the aim has been rather to maintain the interest if possible with a crescendo effect, avoiding the diminuendo so characteristic of many rival efforts that need not be named.

Writers on the Great Cities

BY postponing until Part 2 Dr. Morgan-de-Groot's very attractive study of the great Dutch city, Part I loses somewhat in brightness, for I regard these pictorial descriptions of the great cities of the world as a vitally important feature of our work, adding to it variety of both text and picture. Indeed, some of our happiest chapters will be discovered among the arrangements I have made for describing the great cities. The announcement, for example, that Mr. Hugh Walpole, the celebrated novelist, will describe New York in our pages is bound to intrigue those of my readers who are admirers of his work, and they must be many. Similarly, Mr. W. L. George

THE advantages of the A, B, C arrangement seem to me to outweigh all other considerations, and this is but one of several important occasions on which I have risked the first number being less attractive than it might

[Continued on page iii. of this wrapper]

The Editor explains the plan and purpose of this work



OUT of the world-wide favour extended to "Peoples of All Nations" and the natural association of ideas the present work has been born. Correspondents in all parts of the world—not merely Britons abroad, but many men and women of alien race and religion—have written to me in appreciation of the literary and pictorial merits of the popular publication to which *COUNTRIES OF THE WORLD* is now offered as a companion, and from their suggestions and my own inclination of mind this new and original work has taken shape.

Just as its predecessor was removed as far as possible from the condition of a technical treatise on anthropology, ethnography, or history, while combining all three and adding an unrivalled and alluring pageant of the races of mankind in their habit as they live, so is *COUNTRIES OF THE WORLD* scrupulously unlike any "geography book" one has ever seen, and yet it is geographic in the best and every sense of the word. Stark geography is a cold and cheerless theme; but geography plus human interest can be made to fascinate while it informs.

NO branch of public education has been slower to "popularise" itself than geography, yet none has finer opportunities for being made humanly interesting. We come into touch with it as soon as we have asked anyone to tell us the road to somewhere. Every day of our lives—if they are full and useful lives—we have need of geographical knowledge, and yet until very recent years no science was so neglected of

our teachers. To know the names of the continents and oceans, the principal countries and their capital cities, the longest rivers and the highest mountains, and to be able to distinguish the various natural forms, such as cape, peninsula, and island, was too long esteemed an ample "grounding." But that is all changed now, and the scientific has not only condescended to be interesting, it has even gone so far as to be amusing.

The Newer Geography

A YOUTH trained under the latest geographical system is said to have been asked to state where and what was Constantinople. He did not know, but he blithely said to his interrogator: "If you will tell me where it is, I will tell you why it's there." An untrue story, no doubt; yet an admirable criticism of some of the newer methods in making geography a living thing and something more than the memorising of meaningless names.

One ought to know where Constantinople is, but equally important to know are the reasons why that particular part of the earth's surface has been for nearly two thousand years the inevitable site of one of the most important cities. The newer geography seeks to make this plain to the student: Teachers are striving to make geography interesting and succeeding splendidly. To aid them and to further a branch of knowledge so vital to all comes COUNTRIES OF THE WORLD.

ONE of the happiest comments passed upon "Peoples of All Nations" was the following by Sir Thomas Holdich, an illustrious veteran of geography:

"Now that the 'Peoples of All Nations' is so near its conclusion may I congratulate you on its success? In my opinion it is a permanently useful educational work, dealing with the characteristics and dress of nationalities at an epoch in time marked by the Great European War. It will become more and more valuable for reference as time moves on. I have been charmed with much of the descriptive writing. . . .

If I may make a suggestion it is that your new geographical work, COUNTRIES OF THE WORLD, should also mark an epoch and deal not only with the geography of communications, but with the relation between the lands and their people—i.e. their economic possibilities—which, at the present time, is the great question of the hour."

Sir Thomas Holdich's ideal of COUNTRIES OF THE WORLD is essentially the same as its editor's. Just as with camera and pen we have surveyed the inhabitants of the world as they exist to-day and registered the results of our survey not merely for the edification of the reader of the present, but for the instruction of the student and the historian of the future, so shall we in the work to which these pages are introductory present a complete photo-geographic survey of the physical aspects of the earth itself and the great cities and monuments that man has built upon it as these may still be seen by the traveller.

Some Points of Difference

COUNTRIES OF THE WORLD differs radically and in so many ways from the familiar gazetteers and geographies of an earlier day and, indeed, from most geographical works of to-day, that I cannot attempt here to illustrate in any detail these points of difference. A few only I shall specify.

The arrangement of the work is geographical. We might have imagined a journey round the world, proceeding, say, from England through Europe to Asia to North America, and southward to Cape Horn, then to Oceania, Australia, returning home by Africa. But the pictorial effect of that would have been less varied than that of alphabetical arrangement which has been adopted, and it would have been less easy of reference when one wished later on, to re-read the description of this country or that city.

The areas into which we have plotted out the earth's surface are mainly natural geographical units or groups—not national nor political—but occasionally

a unit has been chosen for some consideration other than the purely geographic. Thus, we have taken Bohemia out of Czechoslovakia not solely because it is a country that does possess certain natural boundaries, but because it bears an old familiar name.

GEOGRAPHY has had little to do with the naming of the Balkan States as they exist to-day, and the large area sometimes called Yugo-Slavia or, officially, the Kingdom of the Serbs, Croats, and Slovenes—a name that lacks every element of permanence—appears in our pages as (a) Serbia and (b) Bosnia and Herzegovina, both of these being distinct geographical entities, and bearing familiar, non-political names.

Then, while we find in North Africa geographical areas of a definite character, such as the Barbary States—a group of three political units—Sahara, Sudan, Guinea Lands, etc., in South America, where the continent is divided into north and south sections by its "relief," and into east and west zones by its climate, the political units form a more convenient subdivision.

Key Maps of our Contents

OUR series of key maps shows in a graphic way the method of division that has been followed. A glance at India (p. xlv) will illustrate the thoroughness of that method, while the list of chapters in pp. viii-ix will enable the reader to find his way about our pages with a minimum of difficulty.

In addition to the descriptions of the different countries, there are brief geographical studies of each of the continents and of India, and a series of chapters on the chief cities. The selection of these cities has been made on quite arbitrary lines. It would not have been practicable, on the one hand, merely to fix a population standard, or satisfactory, on the other, to have confined the list to capital cities. Nobody would suggest, for instance, that Ottawa is as worthy of a separate

chapter as Toronto or Montreal. Individual character, historic association, and commercial importance have chiefly determined the selection; but especially the first and second considerations. And, of course, no city of any importance is entirely omitted. Florence, for example, is dealt with in the chapter on Tuscany, Bogotá in that on Colombia, while the great industrial cities of England and the United States are included in the general descriptions of these countries. Chiefly, the separate treatment of certain cities heightens the "human interest" of our work and all that adds to variety is to be welcomed.

A Brilliant Band of Contributors

IN its contributors, also, *COUNTRIES OF THE WORLD* differs from the conventional geographical work. They are, with hardly an exception, explorers, travelers and observers, many of them world-famous as authors, who write of lands where they have sojourned, and about cities they have visited. In this way our work may claim a measure of authority—apart from that vividness of description which comes from writing of "things seen"—to which none of the usual geographies or gazetteers can pretend.

While no editorial restraint has been put upon the contributors, so that all have been free to express themselves in their various characteristic ways, an elaborately prepared "ground plan" for each chapter of the work has been supplied to each writer with the object of securing a certain mean of treatment throughout the whole.

EACH contribution begins with a brief generalisation, the object of which is to show why the area described may be regarded as a geographical unit, and, at the same time, to define as clearly as possible its position, size, shape, and boundaries. The writer then proceeds with the description of the general aspect of the country, covered by such uninspiring words as "relief, soil, and

climate." He next deals with the subject of vegetation, natural and artificial, the one comprising those old friends of our schooldays, "flora and fauna," and the other a description of man's fight with nature, or, in tamer words, agriculture and stock-breeding.

Geology next claims attention, followed by some reference to the primary occupations, such as fishing and forestry, and the secondary occupations which are represented by the multitudinous branches of modern trade. An important matter next in order is the question of communications, internal and external transport; then trade generally, followed by some description of the cities, towns, and villages of the country, the survey concluding with some reference to the characteristics of the inhabitants, chiefly from the point of view of geographical influence upon them.

How "Human Interest" is Secured

IT will readily be seen, from this brief description of the "skeleton" of our work, how lifeless a body might have been produced by the old methods of geographical writing; but by enlisting the services of a brilliant band of travel authors, all of notable individuality, and inviting them to fill in the editorial outline in whatever manner is best fitted their personal tastes, it has been possible to preserve all the merits of a scientific geographical work, while adding the attractive quality of "human interest" and variety of treatment.

ON the pictorial side, COUNTRIES OF THE WORLD would be unique were it not that "Peoples of All Nations" had already set the standard which is here maintained and, so far as quantity is concerned, improved upon; for we cannot hope to excel in point of quality the coloured, photogravure, or text illustrations of that work. But in wealth of colour plates not even its forerunner can compare with COUNTRIES OF THE WORLD, and I would point out that these plates, which are coloured with minute

care from the most accurate data obtainable, never become artists' impressions, but remain, as they are intended to be, *photographic documents*, the colours being applied with such skill that the realistic quality of the photograph is not impaired.

Original Photographic Documents

ANOTHER point to be observed in connexion with our illustrations is the fact that the majority of these are here printed *for the first time*. While it has been possible to secure about one million words of entirely original writing by some hundred and thirty distinguished authors, to gather upwards of 5,000 unpublished photographs of scenes throughout the world would have been a more formidable undertaking. Yet a large proportion of our illustrations - if not, indeed, the majority - has been obtained from travellers who are amateurs of the camera, and from professional photographers who have placed their latest unpublished films at our disposal; so that beyond their intrinsic beauty and interest, and in addition to the effective manner of their reproduction, our pictures as a whole possess the further merit of being hitherto unpublished.

IT is expected that the appeal of COUNTRIES OF THE WORLD will be mainly to a wide and non-specialised audience. No matter what one's vocation may be, a knowledge of geography is essential to every man or woman with the slightest pretension to culture. Our work, therefore, is so planned that it should attract the general reading public in the first instance, but from the fact that its foundations are laid in accordance with the latest ideas finding favour among the most enterprising teachers of geography, I am not without the hope that even those who specialise in geographical study will here find a work, unique in character, which may prove of real help in the furtherance of one of the most important branches of popular education.

J. A. H.

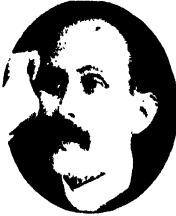
SOME REPRESENTATIVE CONTRIBUTORS

THESE seventy portraits of distinguished travel-writers are not offered as the most noteworthy, but as representative of the whole brilliant staff of 130, whose contributions make COUNTRIES OF THE WORLD the most authoritative, as it is the most attractive, geographical work ever offered to the world-wide audience that reads the English language



F. BRITTEN AUSTIN

Novelist, traveller and playwright. Contributes a fascinating descriptive study of Venice



HENRY BAERLEIN

Author of *The Shade of the Balkans*, *A Difficult Frontier*, etc. Deals with Albania, Czechoslovakia



Col. GRANVILLE BAKER

Author, *The Danube with Pen and Pencil*, etc. Describes Bohemia, Prague, Silesia, South Germany



Hon. MAURICE BARING

Essayist and special correspondent; a foremost authority on things Russian. Contributes Russia



T. ALEXANDER BARNES

Explorer, naturalist. Author, *Wunderland of the Congo*. Describes Congo, French and Belgian



J. O. P. BLAND

Authority on Chinese and Japanese subjects. "Times" correspondent. Describes Korea, Peking



ROYD CABLE

Traveller, novelist and descriptive writer. Supplies pen pictures of Melbourne, New Zealand, Tasmania



EMILE CAMMAERTS

Belgian poet. Author, *Belgium from Roman Invasion to Present Day*. Writes on Antwerp



EDMUND CANDLER

Official Eye-Witness Mesopotamia 1915-18. Describes Kashmir and Himalaya, Mesopotamia, Tibet



DOUGLAS CARRUTHERS

Naturalist, and explorer in Mongolia, Turkistan, and Central Asia. Contributes Mongolia



Sir BASIL CLARKE

Journalist and war correspondent in numerous campaigns. Writes description of Cologne



ARTHUR CORBETT-SMITH

Authority on Chinese questions. Author, *China and Her People*, etc. Contributes China, Shanghai



HENRY D. DAVRAY

Library editor "Les Nouvelles" and special correspondent to Paris journals. Writes on France



W. H. DAWSON

Sociologist, educationalist and author. Describes Hanzig, Hamburg, North Germany



Rev. PERCY DEARMER

Professor of Ecclesiastical Art. Author, *Highways and Byways in Normandy*. Describes Normandy



FRANK DILNOT

Author and traveller. Author, *The New America*. Contributes description of the United States



ROY ELSTON

Author of *Constantinople*, *Gallipoli*, *Asia Minor*. Writes on Constantinople and Turkey in Europe



FLORENCE FARMBOROUGH

Traveller, linguist. Authority on modern Europe. Describes Bukarest, Dobruja, Poland, Warsaw



ROSITA FORBES

Explorer. Author of *The Secret of the Sahara*. Kufara. Contributes description of Arabia



Sir J. FOSTER FRASER

Traveller and special correspondent. Author, *America at Work*, etc. Describes Chicago



Sir BAMFYLDE FULLER

Late member Indian Viceroyal Council. Author, *Empire of India*, etc. Contributes survey of Assam



W. L. GEORGE

Novelist and author of *Ind. Columbia*. Writes a fascinating chapter on the city of Boston



Sir PHILIP GIBBS

Novelist, editor and war correspondent. Author, *The Hope of Europe*. Writes on Moscow



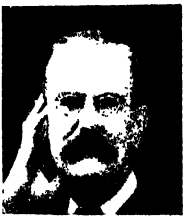
Mrs. WILLIAM GORDON

Traveller and author, *A Woman in the Balkans*, *Rumania Yesterday and To-day*. Describes Rumania



STEPHEN GRAHAM

Author, travel-writer and special correspondent. Contributes chapters *Mexico, Mexico City*



ARTHUR GRAY

Master of Jesus College, Cambridge. Author, *Cambridge and its Story*, etc. Writes on Cambridge



FRANCIS GRIBBLE

Novelist and traveller. Authority on Switzerland. Describes Geneva and Switzerland



CECIL HEADLAM

Traveller and author of *Venetia and Northern Italy*, etc. Describes South Italy and Tuscany



C. LEWIS HIND

Editor, critic and travel-writer. Author, *Thurs Seen in America*, etc. Writes on Philadelphia



E. A. BRAYLEY HODGKIN

Economist and historian. Authority on Russia and Germany. Describes Berlin, Petrograd



Sir THOMAS HOLDICH

Authority on Indian questions. Author, *Indian Borderland*, etc. Describes India, Punjab, Rajputana



GORDON HOME

Artist and editor. Author, *Along the Rivers of France and Italy*. Writes on Malta, Riviera, Tripoli



Very Rev. Dean INGE

Eminent essayist and sociologist. Dean of St Paul's and authority on London. Describes London



JEROME K. JEROME

Novelist, critic, dramatist and traveller. Contributes an illuminating description of Dresden



WALTER JERROLD

Journalist, critic and traveller. Author, *The Danube*, etc. Describes Budapest, Hungary



HENRY LEACH

Journalist and traveller. Contributes *Andalus, Barbary States, Barcelona, Portugal, Spain*



EVANS LEWIN

Librarian R.C.I. Author, *Experiences of Russia*. Describes Africa, Guinea, Lands, Natal, etc



EDWARD E. LONG

Authority on Indian subjects. Describes Bengal, etc. Central India, Delhi, Madras, Southern India



Col. ARTHUR LYNCH

Author of many critical and technical works in English and French. Contributes study of Paris



ROBERT LYNCH

Critic and editor. Author, *Irish and English*, *Ireland a Nation*, etc. Writes account of Ireland



Sir GEORGE MACARTNEY

Late British Consul-General, Kashgar. Member Pashur Commission. Describes Turkistan



P. A. MACKENZIE

Journalist with intimate experience of Russia. Author, *Russia Before Dawn*, etc. Writes Siberia



Sir HALFORD MACKINDER

Former President Geographical Section, British Assoc. Author. Contributes chapter on England



G. E. MITTON (Lady Scott)

Author, *The Lost Cities of Ceylon* and other books of travel. Writes description of Ceylon



C. A. W. MONKTON

Author of *Some Experiences of a New Guinea Resident*. Contributes chapter on New Guinea



Dr. J. MORGAN-DE-GROOT

Novelist and foremost authority on Dutch subjects. Contributes descriptive study of Amsterdam



NEIL MUNRO

Author and journalist. Editor, Glasgow Evening News. Writes description of the city of Glasgow



H. W. NEVINSON

Traveller and war correspondent. Author, The Dawn in Russia. Writes account of Caucasus



Sir PERCIVAL PHILLIPS

War correspondent. Balkan and Great Wars. Contributes accounts of Bagdad and Belgrade



MARMADUKE PICKTHALL

Eastern traveller and author. Writes on Bombay and Gujarat and Bombay City



CRAWFORD PRICE

Authority and writer on South Eastern Europe. Contributes accounts of Austria and Vienna



Sir WILLIAM RAMSAY

Foremost authority on history of Asia Minor. Author of many standard works. Writes on Anatolia



CHARLES F. REY

Author, Unconquered Abyssinia. Organizer of British troops. Writes on Abyssinia and Eritrea



Major OWEN RUTTER

Many years resident in Far East. Author, British North Borneo. Contributes Borneo and Formosa



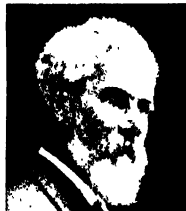
Prof. CHARLES SAROLEA

Professor of French Literature, Edinburgh University. Writes a vivid description of Belgium



Sir GEORGE SCOTT

Member of Anglo-Siam Boundary Commission. Author of many works. Writes on Siam



J. W. ROBERTSON-SCOTT

Agricultural Commissioner Netherlands and Denmark. Author. Writes on Denmark and Japan



HAROLD SPENDER

Novelist, journalist and University Extension Lecturer. Contributes Greece and Sofia



Col. J. B. STATHAM

African explorer. Author of Through Angola. Contributes a picturesque description of Angola



VILHJALMUR STEFANSSON

Has conducted extensive Arctic explorations. Author. Writes on Alaska and Arctic Lands



Sir PERCY SYKES

Foremost authority on Persia. Author, Ten Thousand Miles in Persia. Contributes Persia



Sir W. BEACH THOMAS

Traveller and war correspondent. Author, Ten days in Greater Britain. Deals with Australia, Sydney



Sir BASIL THOMSON

Author, Discovery of the Solomon Islands. Writes on Fiji Islands, Samoa, South Sea Islands



KATHARINE TYNAN

Poet and novelist. Author of many notable works in prose and verse. Writes of her native city, Dublin



HUGH WALPOLE

Celebrated novelist and travel writer. Contributes a brilliant study of the city of New York



F. KINGDON WARD

Author and explorer. Author of In Farthest Burma, Mystery Rivers of Tibet. Writes on Burma



JOSEPH WELLS

Warden of Wadham College, Oxford. Author, Oxford and its Colleges, etc. Describes Oxford



VALENTINE WILLIAMS

Prominent journalist and special correspondent in many lands. Contributes account of Cairo



BECKLES WILLSON

Author, Newfoundland, the Tenth Island, etc. Writes Montreal, Newfoundland, Quebec



Sir BERTRAM WINDLE

Historian and Professor of Anthropology. Contributes picturesque description of Toronto

CONTINENTS COUNTRIES & CITIES

in the order of their treatment in Countries of the World

IN the subjoined list the names in capital letters are those of the consecutive chapters of our work, the arrangement of which is alphabetical. It is not, of course, a complete list of the places described, for which the reader must consult the General Index at the end. A perusal of these two pages, however, will help to make clear our editorial plan. Wherever a country is dealt with under a heading that might be thought unusual - example, "Ashanti v. Guinea Lands" - reference is given. Great cities, such as Liverpool and Pittsburg, which are not the subject of separate chapters, do not appear here, as they are described under England, United States, etc. But if there might be doubt as to the main article - example, "Cadiz v. Andalusia" (where "Spain" might be expected) - direction is given. None of the states of the U.S.A. is the subject of an individual chapter.

<p>Aaland Is. v. Finland, etc.</p> <p>ABYSSINIA & ERITREA</p> <p>Accra v. Guinea Lands</p> <p>Aden v. Arabia</p> <p>Aegean Is. v. Greece</p> <p>AFGHANISTAN</p> <p>AFRICA</p> <p>Ahmadabad v. Bombay, etc.</p> <p>ALASKA</p> <p>ALBANIA</p> <p>Alberta v. Canada</p> <p>Alexandria v. Egypt</p> <p>Algeria v. Barbary States</p> <p>Allahabad v. India, Central</p> <p>ALSACE-LORRAINE</p> <p>AMERICA, NORTH</p> <p>America, South, v. South America</p> <p>AMSTERDAM</p> <p>ANATOLIA</p> <p>ANDALUSIA</p> <p>Andaman Is. v. Indian Oc.</p> <p>Andorra v. Spain</p> <p>Anglo-Egyptian Sudan v. Sudan</p> <p>ANGOLA</p> <p>Annam v. Indo China</p> <p>ANTARCTICA</p> <p>ANTWERP</p> <p>ARABIA</p> <p>ARCTIC LANDS</p> <p>Ardennes v. Belgium</p> <p>ARGENTINA</p> <p>ARMENIA</p> <p>Ashanti v. Guinea Lands</p> <p>ASIA</p> <p>Asia Minor v. Anatolia</p> <p>ASSAM</p> <p>ATHENS</p> <p>ATLANTIC ISLANDS</p> <p>AUSTRALIA</p> <p>AUSTRIA</p> <p>Azerbaijan v. Caucasus</p> <p>Baden v. Germany, South</p> <p>BAGDAD</p> <p>Bahamas v. West Indies</p> <p>BALEARIC ISLANDS</p> <p>Balkan Peninsula v. Europe, Bulgaria, Greece, Serbia</p> <p>Baluchistan v. Rajputana</p> <p>Bangalore v. India, S'thera</p> <p>Barbados v. West Indies</p> <p>BARBARY STATES (Morocco, Algeria, Tunisia)</p> <p>BARCELONA</p> <p>Baroda v. Bombay, etc.</p> <p>Basutoland v. South Africa</p> <p>Batavia v. Malay Archip'go</p> <p>Bavaria v. Germany, South</p> <p>Bechuanaland v. S. Africa</p>	<p>Belgian Congo v. Congo</p> <p>BELGIUM</p> <p>BELGRADE</p> <p>BENGAL, BIHAR, and ORISSA</p> <p>BERLIN</p> <p>Bermudas v. Atlantic Is.</p> <p>Bessarabia v. Rumania</p> <p>Bhutan v. Kashmir, etc.</p> <p>Bogota v. Colombia</p> <p>BOHEMIA</p> <p>Bokhara v. Turkistan</p> <p>BOLIVIA</p> <p>BOMBAY & GUJARAT</p> <p>BOMBAY, City</p> <p>BORNEO</p> <p>BOSNIA and HERZEGOVINA</p> <p>BOSTON, U.S.A.</p> <p>Bratislava v. Czechoslovakia</p> <p>BRAZIL</p> <p>Bremen v. Germany, North</p> <p>Breslau v. Silesia</p> <p>Brest v. Brittany</p> <p>British Columbia v. Canada</p> <p>British Guiana v. Guianas</p> <p>British Honduras v. Central America</p> <p>BRITANNY</p> <p>Brunswick v. Germany, N.</p> <p>BRUSSELS</p> <p>BUDAPEST</p> <p>BUENOS AIRES</p> <p>BUKAREST</p> <p>Bukovina v. Rumania</p> <p>Bulawayo v. South Africa</p> <p>BULGARIA</p> <p>BURMA</p> <p>Cadiz v. Andalusia</p> <p>Caen v. Normandy</p> <p>CAIRO</p> <p>Calabria v. Italy, South</p> <p>CALCUTTA</p> <p>Cambodia v. Indo-China</p> <p>CAMBRIDGE</p> <p>Cameroon v. Guinea Lands</p> <p>CANADA</p> <p>Canary Is. v. Atlantic Is.</p> <p>CANTON</p> <p>Cape Breton I. v. Canada</p> <p>CAPE OF GOOD HOPE</p> <p>C. Verde Is. v. Atlantic Is.</p> <p>Carinthia v. Austria</p> <p>Carnatic v. India, Southern</p> <p>Carniola v. Serbia</p> <p>Caroline Is. v. Pacific Is., N.</p> <p>Catalonia v. Spain</p> <p>CAUCASIA</p> <p>Cawnpore v. India, Central</p> <p>Cayman Is. v. West Indies</p> <p>Celebes v. Malay Archip'go</p> <p>CENTRAL AMERICA</p>	<p>Central Provinces v. India, Central</p> <p>Cetigne v. Serbia</p> <p>CEYLON</p> <p>Channel Is. v. England</p> <p>Chatham Is. v. New Zealand</p> <p>CHICAGO</p> <p>CHILE</p> <p>CHINA</p> <p>Chitral v. Kashmir, etc.</p> <p>Chosen v. Korea</p> <p>CHRISTIANIA</p> <p>Christmas I. v. Indian Oc.</p> <p>Christmas I. v. Pacific Is., N.</p> <p>Cilicia v. Anatolia</p> <p>Cochin v. India, Southern</p> <p>Cochin China v. Indo China</p> <p>COLOGNE</p> <p>COLOMBIA</p> <p>Colon v. Central America</p> <p>CONGO, French & Belgian</p> <p>CONSTANTINOPLE</p> <p>COPENHAGEN</p> <p>Corfu v. Mediterranean Sea</p> <p>CORSICA</p> <p>Costa Rica v. Cen. America</p> <p>CRETE</p> <p>Crimée v. Russia</p> <p>Croatia v. Serbia</p> <p>CUBA</p> <p>Cutch v. Bombay & Gujarat</p> <p>CYPRUS</p> <p>Cyrenaica v. Tripoli</p> <p>CZECHOSLOVAKIA</p> <p>Dahomey v. Guinea Lands</p> <p>Dalmatia v. Serbia</p> <p>DAMASCUS</p> <p>DANZIG</p> <p>DELHI</p> <p>DENMARK</p> <p>DOBRUJA</p> <p>DRESDEN</p> <p>DUBLIN</p> <p>Dutch East Indies v. Malay Archipelago</p> <p>Dutch Guiana v. Guianas</p> <p>EAST AFRICA (Kenya, Mozambique, Tanganyika Territory, Uganda)</p> <p>ECUADOR</p> <p>EDINBURGH</p> <p>EGYPT</p> <p>ENGLAND</p> <p>Equatorial West Africa v. Guinea Lands</p> <p>Esthonia v. Finland, etc.</p> <p>EUROPE</p> <p>Falkland Is. v. Atlantic Is.</p> <p>Fanning Is. v. Pacific Is., N.</p>	<p>Faroe Is. v. Atlantic Is.</p> <p>Federated Malay States v. Malaya</p> <p>Fez v. Barbary States</p> <p>FIJI ISLANDS</p> <p>FINLAND & OTHER BALTIC LANDS</p> <p>Finme v. Italy, North</p> <p>Flanders v. France, Belgium</p> <p>Fluene v. Turkey</p> <p>FORMOSA</p> <p>FRANCE</p> <p>Friendly Is. v. South Sea Is.</p> <p>Galapagos Is. v. Ecuador</p> <p>Gabon v. Poland</p> <p>Gallipoli v. Constantinople</p> <p>Gambia v. Guinea Lands</p> <p>GENOVA</p> <p>Genoa v. Riviera, Italy, N.</p> <p>Georgia v. Caucasus</p> <p>GERMANY, NORTH</p> <p>GERMANY, SOUTH</p> <p>Gibraltar v. Spain</p> <p>Gilbert Is. v. South Sea Is.</p> <p>GLASGOW</p> <p>Goa v. Bombay & Gujarat</p> <p>Gold Coast v. Guinea Lands</p> <p>GREECE</p> <p>GREENLAND</p> <p>Griqualand West v. Cape of Good Hope</p> <p>Guadeloupe v. West Indies</p> <p>Guam v. Pacific Is., North</p> <p>Guatemala v. Cen. America</p> <p>GUIANAS</p> <p>GUINEA LANDS</p> <p>Gwahor v. India, Central</p> <p>Haiti v. West Indies</p> <p>HAMBURG</p> <p>Hanover v. Germany, North</p> <p>Hawaii v. Pacific Is., North</p> <p>Hejaz v. Arabia</p> <p>Herzegovina v. Bosnia</p> <p>HOLLAND</p> <p>Honduras v. Cen. America</p> <p>Hong Kong v. China</p> <p>Honolulu v. Pacific Is., N.</p> <p>HUNGARY</p> <p>Hyderabad v. India, Central</p> <p>ICELAND</p> <p>INDIA. See also Assam, Bengal, Bombay, Kashmir, Punjab, Rajputana</p> <p>INDIA, CENTRAL</p> <p>INDIAN OCEAN & ISLANDS</p> <p>INDIA, SOUTHERN</p> <p>INDO-CHINA</p> <p>Ionian Is. v. Mediterranean Sea</p>
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IRELAND
ITALY, NORTH
ITALY, SOUTH
Ivory Coast v. Guinea Lands
JAMAICA
JAPAN

Java v. Malay Archipelago
JERUSALEM
Johannesburg v. Transvaal
Johore v. Malaya
Juan Fernandez Is. v. Chile
Jutland v. Denmark
Kamchatka v. Asia
Kandahar v. Afghanistan
Karachi v. Rajputana, etc.
Karoo v. South Africa

KASHMIR & OTHER
HIMALAYAN LANDS
Keeling Is. v. Indian Ocean
Kenya v. East Africa
Khartum v. Sudan
Kibiya v. Turkistan
KOREA
Koweit v. Arabia
Kurdistan v. Mesopotamia

Labrador v. Canada
Labuan v. Borneo
Laccadive Is. v. Indian Oc.
Ladrones Is. v. Pacific Is., N.
Lagos v. Nigeria
Lahore v. Punjab, etc.
Lapland v. Sweden
Latvia v. Finland, etc.
Leeward Is. v. West Indies
Liberia v. Guinea Lands
Libya v. Tripoli
Liechtenstein v. Austria

LIMA
LISBON
Lithuania v. Finland, etc.
Lombardy v. Italy

LONDON
Lourenço Marques v. East
Africa
Loyalty Is. v. South Sea Is.
LUXEMBURG

Macedonia v. Serbia
MADAGASCAR
Madera v. Atlantic Islands
MADRAS, City

MADRID
Malabar Coast v. India, S.
Malacca v. Malaya

MALAYA
MALAY ARCHIPELAGO
Maldives Is. v. Indian Ocean
MALTA

MANCHURIA
Manitoba v. Canada
Marquesas v. South Sea Is.
Marshall Is. v. Pacific Is., N.
Mashonaland v. South Africa
Matabeleland v. S. Africa
Mauritius v. Indian Ocean
Mauritania v. Sahara
Mecca v. Arabia

MEDITERRANEAN SEA
Melanesia v. South Sea Is.
MELBOURNE

MESOPOTAMIA

MEXICO
Micronesia v. Pacific Is., N.

MILAN
Mocavia v. Rumania
Moluccas v. Malay Arch.
Mombasa v. East Africa
Monaco v. Riviera

MONGOLIA
Montenegro v. Serbia
MONTEVIDEO
MONTREAL

Moravia v. Czechoslovakia
Morocco v. Barbary States
MOSCOW

Mozambique v. East Africa
Munich v. Germany, South
Murmian Coast v. Russia
Mysore v. India, Southern

Nagpur v. India, Central
NAPLES

NATAL
Nepal v. Kashmir, etc.

NEWFOUNDLAND
NEW GUINEA
New Hebrides Is. v. South
Sea Islands

NEW ORLEANS
New South Wales v. Aus-
tralia
NEW YORK
NEW ZEALAND
Nicaragua v. Cen. America
Nicobar Is. v. Indian Ocean

NIGERIA
Norfolk I. v. South Sea Is.
NORMANDY
North West Frontier Pro-
vince v. Punjab, etc.

NORWAY
Novaia Zemla v. Arctic
Lan
Nyasaland v. East Africa
Oceania v. South Sea Is.
Oman v. Arabia
Ontario v. Canada
Orange Free State v. South
Africa
Ottawa v. Canada
Oudh v. India, Central
OXFORD

PACIFIC ISLANDS OF
THE NORTH
Pacific Islands of the South
v. South Sea Is., Fiji,
New Guinea, etc.
Palang v. Malaya
PALESTINE
PANAMA
Papua v. New Guinea
PARAGUAY
PARIS
PATAGONIA & TIERRA
DEL FUEGO

PEKING
Pembu v. Zanzibar
Perak v. Malaya
PERSIA
Perth v. Australia
PERU
PETROGRAD
PHILADELPHIA
PHILIPPINE ISLANDS
Piedmont v. Italy, North

POLAND
Polynesia v. South Sea Is.
Pondicherry v. India, S.
Poona v. Bombay, etc.
Porto Rico v. West Indies
Port Said v. Egypt
PORTUGAL
PRAGUE

Pretoria v. Transvaal
Prince Edward Is. v. Canada
PROVENCE
Prussia v. Germany, North
PUNJAB & N.W. FRON-
TIER PROVINCE

QUEBEC, City
Queensland v. Australia

Ragusa v. Serbia
RAJPUTANA, SIND, &
BALUCHISTAN

Rhodesia v. South Africa
Rif v. Barbary States
RIO DE JANEIRO
RIVIERA
ROME

Ross Dependency v. Ant-
arctica
Ruhr v. Germany, North

RUMANIA
RUSSIA
Ruthenia v. Czechoslovakia

SAHARA
Saigon v. Indo China
St. Helena v. Atlantic Is.
St. Lucia v. West Indies
St. Vincent v. West Indies

Sakhalien v. Japan
Salvador v. Central America
Samarkand v. Turkistan
SAMOA
Sandwich Is. v. Pacific Is., N.

SAN FRANCISCO
SANTIAGO
Santo Domingo v. W. Indies

SAO PAULO
Sarawak v. Borneo
SARDINIA
Saskatchewan v. Canada
Saxony v. Germany, North
Schleswig v. Germany, N.
Scully Is. v. England

SCOTLAND
Selangor v. Malaya
Senegal v. Guinea Lands

SERBIA
Seychelles v. Indian Ocean
SHANGHAI
Shantung v. China

SIAM
SIBERIA
SICILY
Sierra Leone v. Guinea
Lands

Sikkim v. Kashmir, etc.
SILESIA
Sind v. Rajputana, etc.

SINGAPORE
Sin-Kiang v. Turkistan
Slave Coast v. Guinea Lands
Slavonia v. Serbia
Slesvig v. Denmark
Smyrna v. Anatolia
Society Is. v. South Sea Is.

SOFIA
SOMALILAND
SOUTH AFRICA. See
also Cape of Good Hope,
Natal, Transvaal

SOUTH AMERICA
South Australia v. Australia

SOUTH SEA ISLANDS

South-West Africa Protec-
torate v. South Africa
SPAIN

Spitsbergen v. Arctic Lands
STOCKHOLM

Straits Settlements v.
Malaya
SUDAN

Suez v. Egypt
Sumatra v. Malay Arch.
Sunda Is. v. Malay Arch.

Surinam v. Guianas
Swaziland v. South Africa
SWEDEN

SWITZERLAND
SYDNEY
SYRIA

Tahiti v. South Sea Is.
Tanganyika Territory v.
East Africa

TASMANIA
Thuringia v. Germany, N.
TIBET
TOKYO

Tonga Is. v. South Sea Is.
Tong-king v. Indo-China
TORONTO

TRANSVAAL
Transylvania v. Rumania
Travancore v. India, S.

Trentino v. Italy, North
Trichinopoly v. India, S.
Trinidad v. West Indies
TRIPOLI

Tristan da Cunha v. At-
lantic Islands
Tunis v. Barbary States

Turkey v. Constantinople,
Anatolia
TURKISTAN
TUSCANY
TYROL

Uganda v. East Africa
Ukraine v. Russia
Ulster v. Ireland
Umbria v. Italy, South
United Provinces v. India,
Central

UNITED STATES
URUGUAY

VENEZUELA
VENICE
Victoria v. Australia

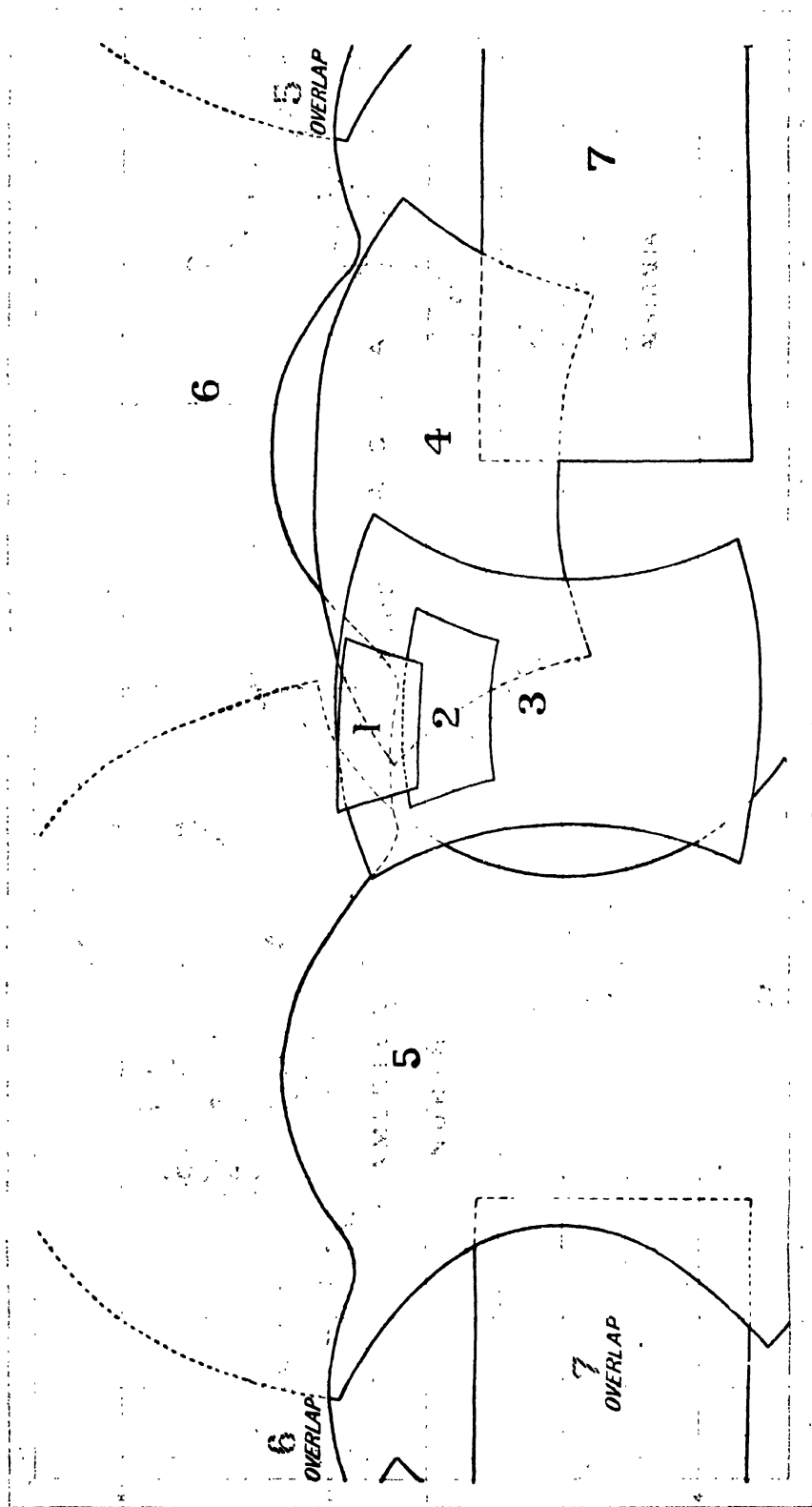
VIENNA
Virgin Is. v. West Indies
WALES
Wallachia v. Rumania

WARSAW
WASHINGTON
Western Australia v. Aus-
tralia

WEST INDIES
Westphalia v. Germany, N.
Windward Is. v. West Indies
WINNIPEG
Württemberg v. Germany, S.

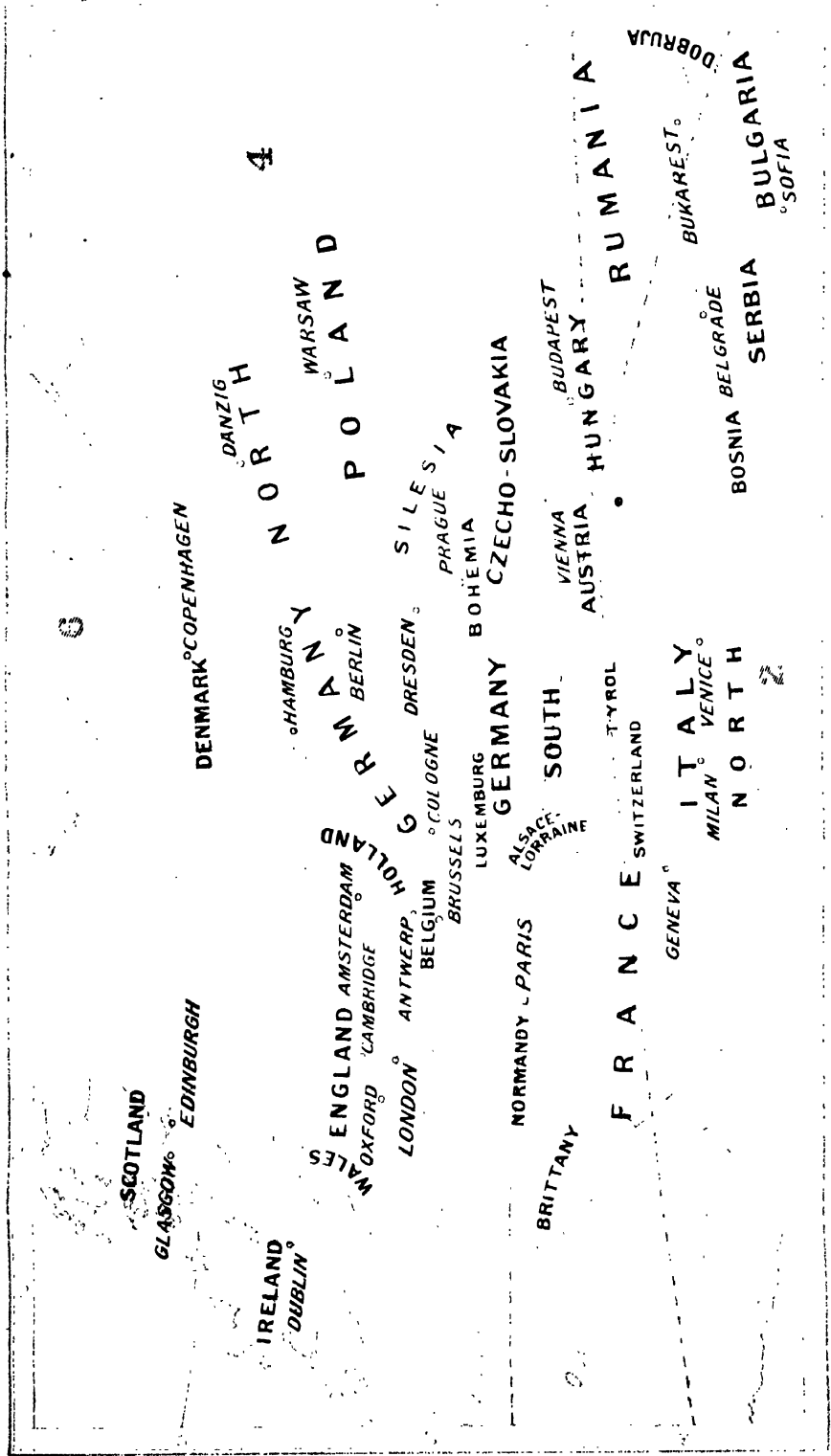
Yemen v. Arabia
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Yunnan v. China

ZANZIBAR & PEMBA
Zululand v. Natal

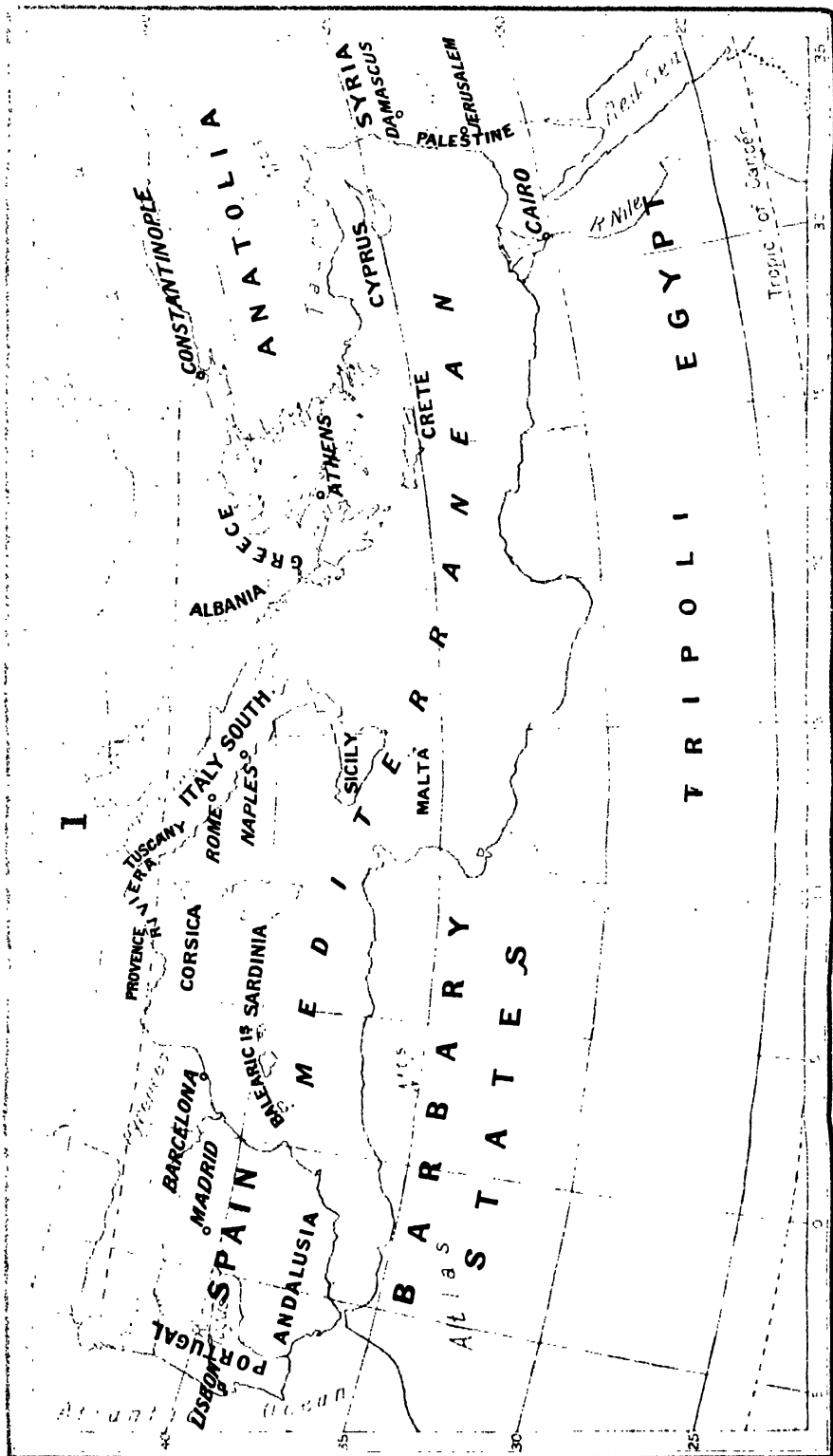


CONSPECTUS OF THE KEY MAPS TO OUR ALPHABETICALLY ARRANGED CHAPTERS DESCRIBING THE WORLD

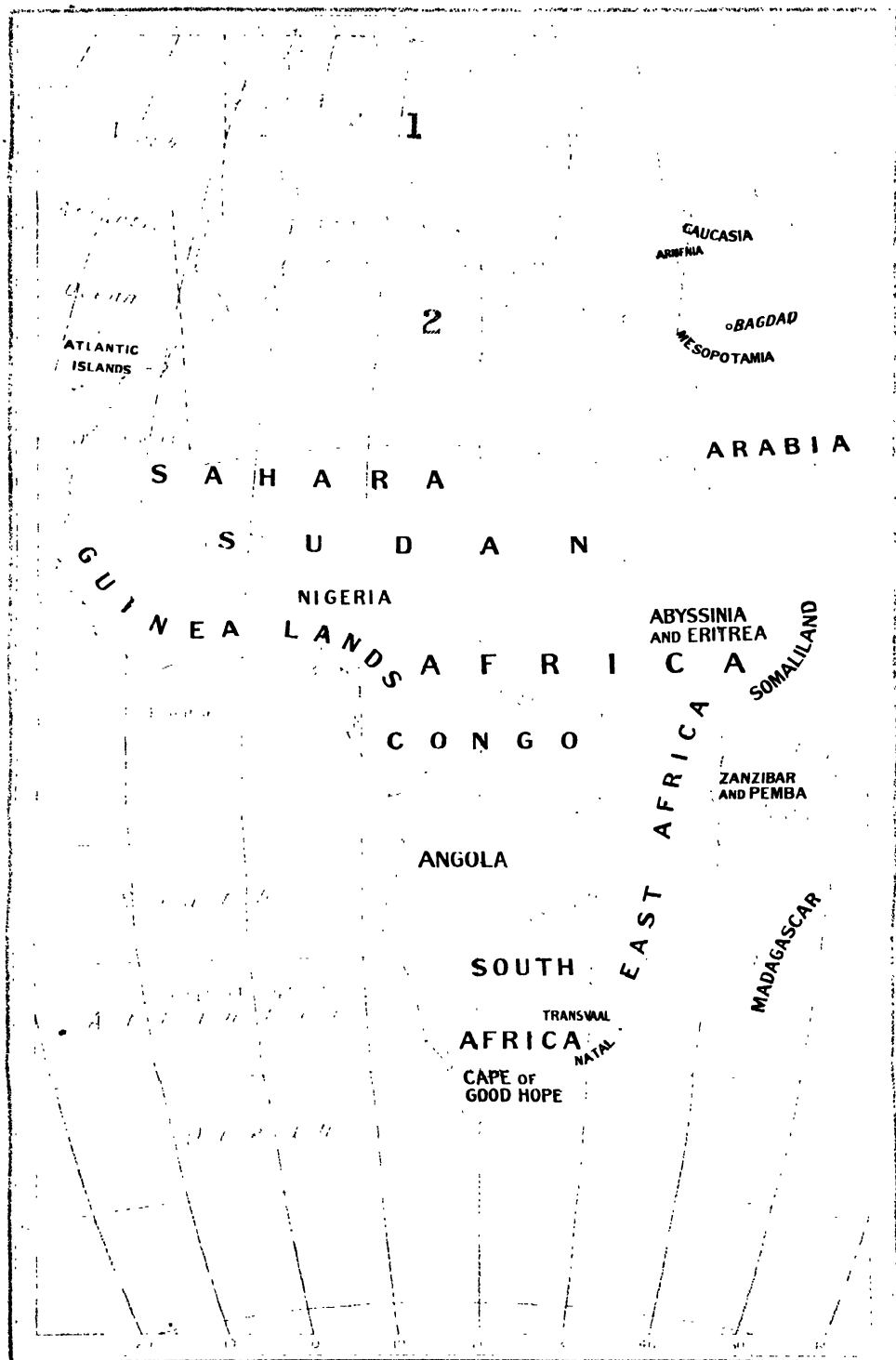
In this outline of the world the areas covered by each of the seven key maps that follow are shown in the numbered spaces. Overlapping areas are indicated by dotted lines. Chapters dealing with Australasia and the East Indies are named in map No. 7. Greenland and Alaska appear in No. 6, but the bulk of the American chapters are specified by their titles in No. 5. For Italian subjects, reference is necessary to both No. 1 and No. 2.



No. 1. KEY MAP TO THE COUNTRIES & CITIES OF NORTH, CENTRAL & WESTERN EUROPE SEPARATELY DESCRIBED
 In all these key maps the names of countries and districts to which separate chapters are devoted are printed in Roman capitals; names of cities so treated are in *italic capitals*. For Russia refer to No. 4; and for Spain and South Italy to No. 2. The map shows that ten chapters complete the description of the British Isles. Oxford and Cambridge are separately described, but descriptions of Manchester and other industrial cities will be found in the chapter on England



No. 2. KEY MAP TO THE COUNTRIES & CITIES OF SOUTHERN EUROPE AND THE MEDITERRANEAN AREA
 For North Italy and the Danubian lands see No. 1. Morocco, Algeria, Tunisia, and their cities are included in the chapter on the Barbary States. Andalusia is the only district of Spain separately described. While the larger islands of the Mediterranean are individually treated, the smaller are included in the general study of the Mediterranean Sea. Genoa and Florence are described in the Riviera and Tuscan chapters respectively. For Gibraltar see Spain, for Smyrna see Anatolia.



No. 3. KEY MAP TO THE DESCRIPTIVE CHAPTERS ON AFRICA

British possessions are described under South Africa, Cape of Good Hope, Transvaal, Natal, East Africa, Zanzibar and Pemba, Somaliland, Sudan, Nigeria, and Guinea Lands. * For North Africa, the Levant and Asia Minor see No. 2, and for the Canary Islands see Atlantic Islands. No African city south of the Tropic of Cancer is described separately

PETROGRAD

R U S S I A

S I B E R I A

MANCHURIA

MONGOLIA

KOREA

TURKISTAN

PEKING

A S I A

PERSIA

AFGHANISTAN

KASHMIR

PUNJAB

AND N.W.F. PROV.

DELHI

RAJPUTANA

SIND

AND BALUCHISTAN

INDIA

CENTRAL

BENGAL

BIHAR & ORISSA

CALCUTTA

BOMBAY

AND GUJARAT

MADRAS

SOUTHERN

INDIA

CEYLON

I N D I A N
A N D I T S I S L A N D S

T I B E T

C H I N A

F O R M O S A

C A N T O N

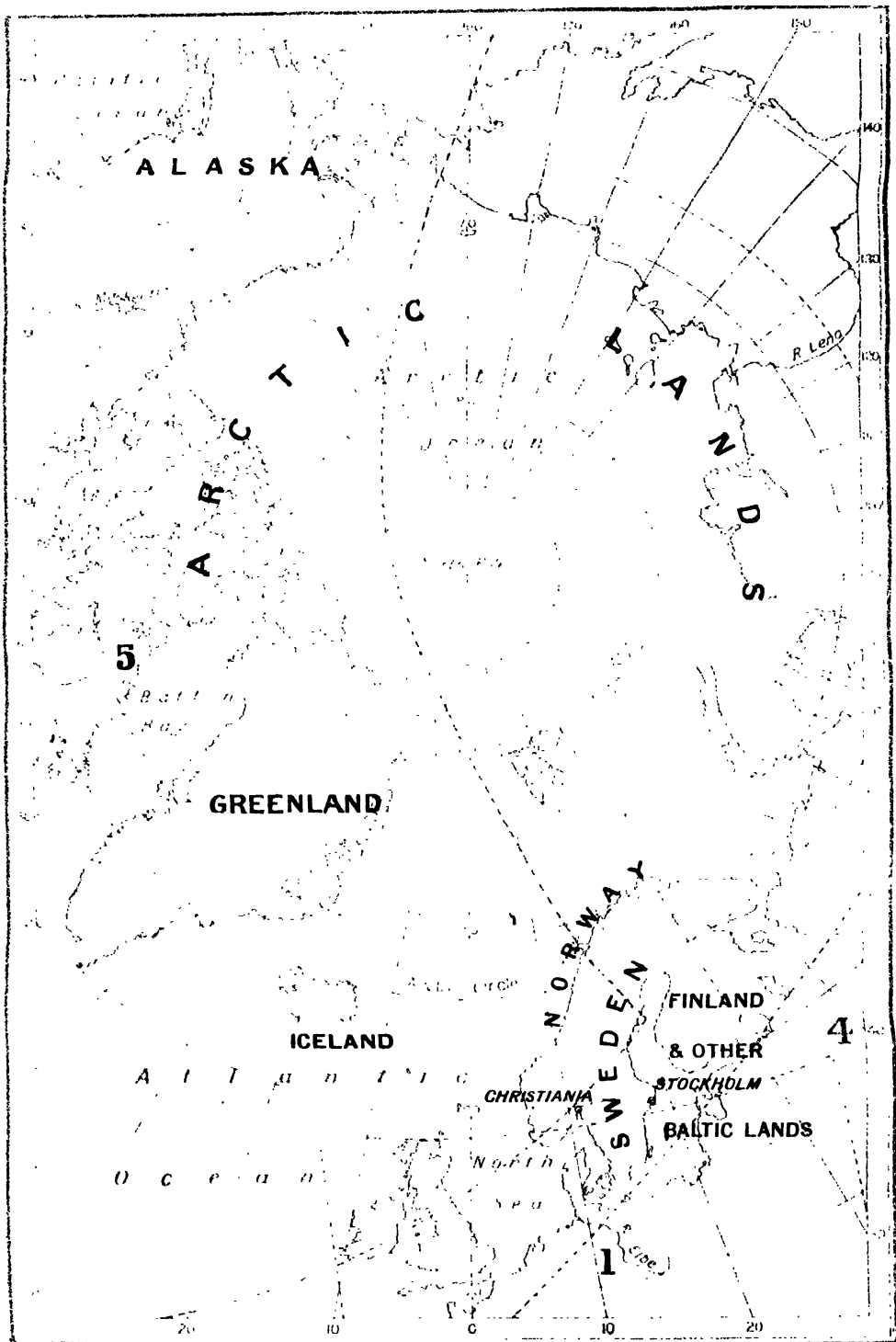
B U R M A

I N D O - C H I N A

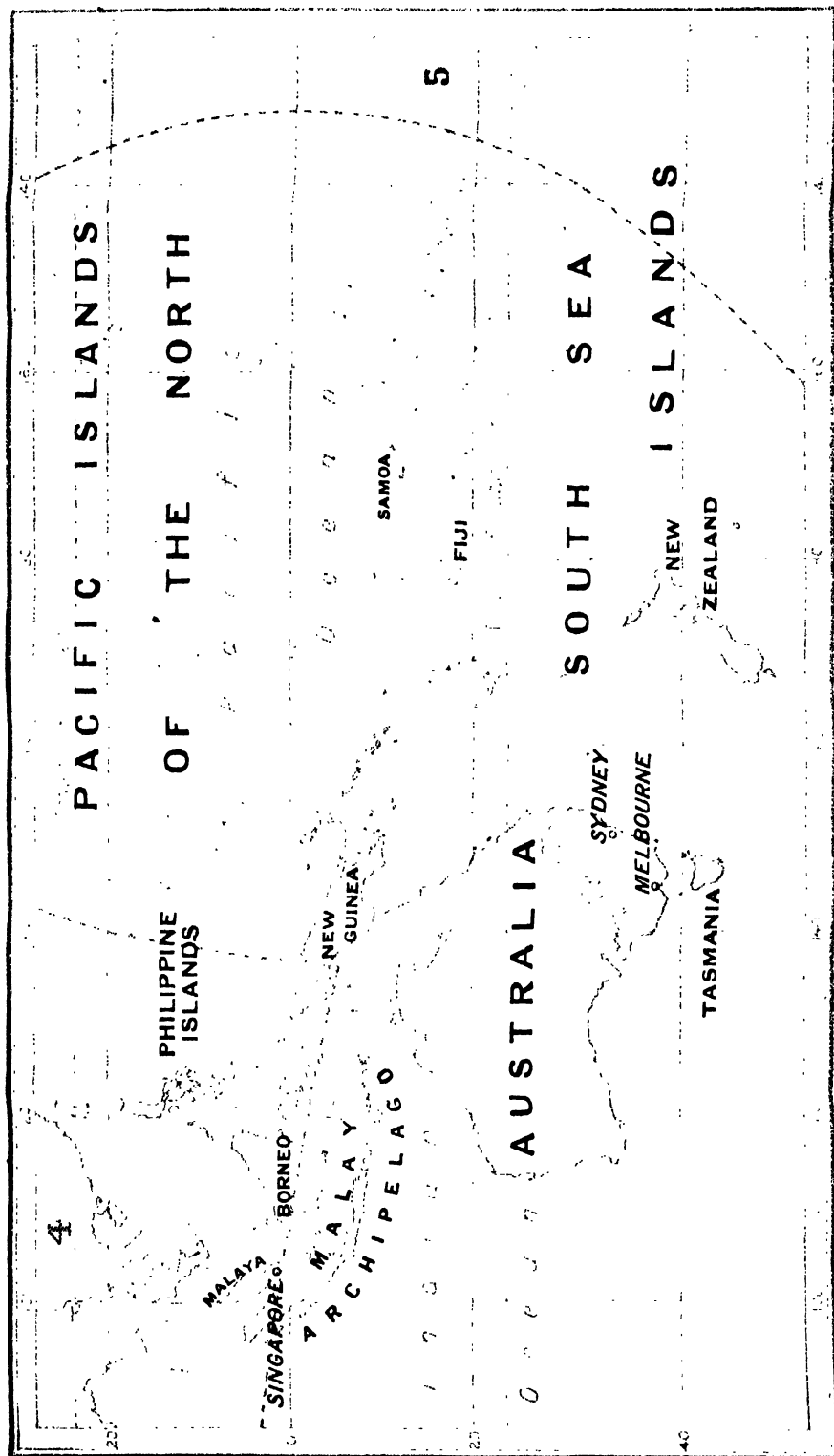
S I A M

No. 4. KEY MAP TO CHAPTER TITLES RELATING TO ASIA AND PART OF EASTERN EUROPE

For the Malay Peninsula and the East Indies see No. 7, for Arabia see No. 3. The map indicates that in addition to the chapter on India, the Indian Empire is described under nine named districts and four cities. Mauritius and other smaller islands are treated under the title Indian Ocean and Its Islands. Korea and Formosa, described separately, are referred to in the chapter on Japan, which contains descriptions of Yokohama and Nagasaki, but not of Tokyo



No. 6. KEY MAP TO CHAPTERS ON THE ARCTIC BASIN SHORELAND
 For Russia and Northern Asia see No. 4, for Western Europe see No. 1, and for North America see No. 5. Spitsbergen, Baffin Land and the Arctic Ocean are dealt with under Arctic Lands. The countries along the East side of the Baltic Sea, Latvia, etc., together with Finland, are included in the chapter Finland and Other Baltic Lands



No. 7. KEY MAP TO THE CHAPTERS ON THE EAST INDIES, AUSTRALASIA AND THE SOUTH SEAS

For continental South-east Asia see No. 4. The chapters Malaya and Singapore, over the Straits Settlements, and the Federated and the Unfederated Malay States, and the title Australia embraces the states and the principal cities of the continent of Australia, except Sydney and Melbourne. Java, Sumatra, Batavia and the Spice Islands, are described in the chapter Malay Archipelago; Brunei, Sarawak, etc., under Borneo, and Hawaii under Pacific Islands of the North

The ROMANCE OF TRAVEL

By Joseph Conrad

IT is safe to say that for the majority of mankind the superiority of geography over geometry lies in the appeal of its figures. It may be an effect of the incorrigible frivolity inherent in human nature, but most of us will agree that a map is more fascinating to look at than a figure in a treatise on conic sections—at any rate for the simple minds which are all the equipment of the majority of the dwellers on this earth.

No doubt a trigonometrical survey may be a romantic undertaking, striding over deserts and leaping over valleys never before trodden by the foot of civilized man; but its accurate operations can never have for us the fascination of the first hazardous steps of a venturesome, often lonely, explorer jotting down by the light of his camp fire the thoughts, the impressions and the toil of his day.

Geography Born of Action

FOR a long time yet a few suggestive words grappling with things seen will have the advantage over a long array of precise, no doubt interesting, and even profitable figures. The earth is a stage, and though it may be an advantage, even to the right comprehension of the play to know its exact configuration, it is the drama of human endeavour that will be the thing, with a ruling passion expressed by outward action marching perhaps blindly to success or failure, which themselves are often undistinguishable from each other at first.

Of all the sciences, geography finds its origin in action, and what is more, in adventurous action of the kind that appeals to sedentary people who like to dream of arduous adventure in the manner of prisoners dreaming behind bars of all the hardships and hazards of liberty dear to the heart of man.

Through Error to Truth

DESCRIPTIVE geography, like any other kind of science, has been built on the experience of certain phenomena and on experiments prompted by that unappeasable curiosity of men which their intelligence has elevated into a quite respectable passion for acquiring knowledge. Like other sciences it has fought its way to truth through a long series of errors. It has suffered from the love of the marvellous, from our credulity, from rash and unwarrantable assumptions, from the play of unbridled fancy.

Geography had its phase of circumstantially extravagant speculation which had nothing to do with the pursuit of truth, but has given us a curious glimpse of the medieval mind playing in its ponderous childish way with the problems of our earth's shape, its size, its character, its products, its inhabitants. Cartography was almost as pictorial then as some modern newspapers. It crowded its maps with pictures of strange pageants, strange trees, strange beasts, drawn with amazing precision in the midst of theoretically conceived continents. It

delineated imaginary kingdoms of Monomotapa and of Prester John, the regions infested by lions or haunted by unicorns, inhabited by men with reversed feet, or eyes in the middle of their breasts.

All this might have been amusing if the medieval gravity in the absurd had not been in itself a wearisome thing. But what of that! Has not the key science of modern chemistry passed through its dishonest phase of Alchemy (a portentous development of the confidence-trick), and our knowledge of the starry sky been arrived at through the superstitious idealism of Astrology looking for men's fate in the depths of the infinite? Mere megalomania on a colossal scale. Yet, solemn fooling for solemn fooling of the scientific order, I prefer the kind that does not lay itself out to thrive on the fears and the cupidities of men.

Lure of the Unknown Places

FROM that point of view geography is the most blameless of sciences. Its fabulous phase never aimed at cheating simple mortals (who are a multitude) out of their peace of mind or their money. At the most it has enticed some of them away from their homes; to death may be, now and then to a little disputed glory, not seldom to contumely, never to high fortune. The greatest of them all who has presented modern geography with a new world to work upon, was at one time loaded with chains and thrown into prison. Columbus remains a

pathetic figure, not a sufferer in the cause of geography, but a victim of the imperfections of jealous human hearts, accepting his fate with resignation. Among explorers he appears lofty in his troubles and like a man of a kingly nature. His contribution to the knowledge of the earth was certainly royal. And if the discovery of America was the occasion of the greatest outburst of reckless cruelty and greed known to history we may say this at least for it, that the gold of Mexico and Peru, unlike the gold of alchemists, was really there, palpable, yet, as ever, the most elusive of the Fata Morgana that lure men away from their homes, as a moment of reflection will convince anyone. For nothing is more certain than that there will never be enough gold to go round, as the Conquistadores found out by experience.



Luckless Searchers for El Dorado

SUPPOSE it is not very charitable of me, but I must say that to this day I feel a malicious pleasure at the many disappointments of those pertinacious searchers for El Dorado who climbed mountains, pushed through forests, swam rivers, floundered in bogs, without giving a single thought to the science of geography. Not for them the serene joys of scientific research, but infinite toil, in hunger, thirst, sickness, battle; with broken heads, unseemly squabbles, and empty pockets in the end. I cannot help thinking it served them right. It is an ugly tale, which has not

Romance of Travel

much to do with the service of geography. The geographical knowledge of our day is of the kind that would have been beyond the conception of the hardy followers of Cortés and Pizarro; and of that most estimable of Conquerors who was called Cabeza de Vaca, who was high-minded and dealt humanely with the heathen nations whose territories he traversed in search of one more El Dorado. It is said they loved him greatly, but now the very memory of those nations is gone from the earth, while their territories, which they could not take with them, are being traversed many times every twenty-four hours by the trains of the Southern Pacific railroad.

Balboa's Moment of Elation

THE discovery of the New World marks the end of the fabulous geography, and it must be owned that the history of the Conquest contains at least one great moment. I mean a geographically great moment—when Vasco Núñez de Balboa, while crossing the Isthmus of Panama, set his eyes for the first time upon the ocean, the immensity of which he did not suspect, and which in his elation he named the Pacific. It is anything but that; but the privileged Conquistador cannot be blamed for surrendering to his first impression.

The Gulf of Panama, which is what he really saw with that first glance, is one of the calmest spots on the waters of the globe. Too calm. The old navigators dreaded it as a dangerous region where one might be caught and lie becalmed for weeks with one's crew dying slowly of thirst under a cloudless sky. The worst of fates, this, to feel yourself die in a long and helpless agony. How much preferable a region of storms where man and ship can at least put up a fight and remain defiant almost to the last.

I must not be understood to mean that a tempest at sea is a delightful

experience, but I would rather face the fiercest tempest than a gulf pacific even to deadliness, a prison-house for incautious caravels and a place of torture for their crews. But Balboa was charmed with its serene aspect. He did not know where he was. He probably thought himself within a stone's throw, as it were, of the Indies and Cathay. Or did he perhaps, like a man touched with grace, have a moment of exalted vision, the awed feeling that what he was looking at was an abyss of waters comparable in its extent to the view of the unfathomable firmament, and sown all over with groups of islands resembling the constellations of the sky?

But whatever spiritual glimpse of the truth he might have had, Balboa could not possibly know that this great moment of his life had added suddenly thousands of miles to the circumference of the globe, had opened an immense theatre for the human drama of adventure and exploration, a field for the missionary labours of, mainly, Protestant churches, and spread an enormous canvas on which armchair geographers could paint the most fanciful variants of their pet theory of a great southern continent.

Fathers of Militant Geography

WILL not quarrel with the post-Columbian cartographers for their wild, but upon the whole, interesting inventions. The provocation to let oneself go was considerable. Geography militant, which had succeeded the geography fabulous, did not seem able to accept the idea that there was much more water than land on this globe. Nothing could satisfy their sense of the fitness of things but an enormous extent of solid earth which they placed in that region of the south where, as a matter of fact, the great white-crested seas of stormy latitudes will be free to chase

By Joseph Conrad

each other all round the globe to the end of time. I suppose their landsmen's temperament stood in the way of their recognition that the world of geography, so far as the apportioning of space goes, seems to have been planned mostly for the convenience of fishes.

What is surprising to me is that the seamen of the time should have really believed that the large continents to the north of the Equator demanded, as a matter of good art or else of sound science, to be balanced by corresponding masses of land in the southern hemisphere. They were simple souls. The chorus of armchair people all singing the same tune made them blind to the many plain signs of a great open sea. Every bit of coast line discovered every mountain-top glimpsed in the distance, had to be dragged loyally into the scheme of the *Terra Australis Incognita*.

Even Tasman, the best seaman of them all before James Cook, the most accomplished of seventeenth century explorers and navigators that went forth to settle the geography of the Pacific even Tasman, after coming unexpectedly upon the North Island of New Zealand, and lingering long enough there to chart roughly a bit of the coast and lose a boat's crew in a sudden affray with the Maoris, seemed to take it for granted that this was the western limit of an enormous continent extending away towards the point of South America.

Navigation by Guess-work

MIGHTY is the power of a theory, especially if based on such a common-sense notion as the balance of continents. And it must be remembered that it is difficult for us now to realize not only the navigational dangers of unknown seas, but the awful geographical incertitudes of the first explorers in that new world of waters.

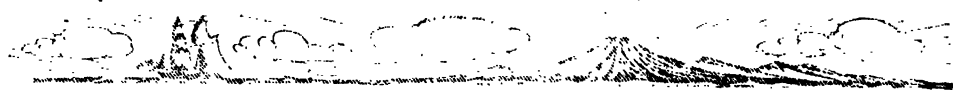
Tasman's journal, which was published not so very long ago, gives us some idea of their perplexing difficulties. The early navigators had no means of ascertaining their exact position on the globe. They could calculate their latitude, but the problem of longitude was a matter which bewildered their minds and often falsified their judgement. It had to be a matter of pure guess-work. Tasman and his officers, when they met on board the *Heemskirk*, anchored in Murderers' Bay, to consider their further course in the light of their instructions, did not know where any of the problematic places named in their instructions were, neither did they know where they themselves were.

Great Sailor of Uncharted Seas

TASMAN might have sailed north or east, but in the end he decided to sail between the two, and, circling about, returned to Batavia, where he was received coldly by his employers, the honourable governor-general, and the council in Batavia. Their final judgement was that Abel Tasman was a skilful navigator but that he had shown himself "remiss" in his investigations, and that he had been guilty of leaving certain problems unsolved.

We are told that Tasman did not expect this armchair criticism; and indeed, even now, it seems surprising to an unprejudiced mind. It was the voyage during which, among other things, Tasman discovered the island by which his name lives on the charts, took first contact with New Zealand (which was not seen again till 130 years afterwards), sailed over many thousands of miles of uncharted seas, bringing back with him a journal which was of much value afterwards for his exploring successors.

It may be he was hurt by the verdict of the honourable council, but he does not seem to have been cast down by it, for



Romance of Travel

it appears that shortly afterwards he asked for a rise of salary—and, what is still more significant, he got it. He was obviously a valuable servant, but I am sorry to say that his character as a man was not of the kind to cause governors and councils to treat him with particular consideration. Except in professional achievement he is not comparable to Captain Cook, a humble son of the soil like himself, but a modest man of genius, the familiar associate of the most learned in the land, medallist of the Royal Society, and a captain in the Royal Navy.

Tasman's Qualities and Defects

BUT there was a taint of an unscrupulous adventurer in Tasman. It is certain that at various times his patron, the Governor Anthony van Diemen, and the honourable council in Batavia, had employed him in some shady transactions of their own, connected with the Japan trade. There is also no doubt that once he had, on his own responsibility, kidnapped an influential Chinaman who stood in the way of some business negotiation Tasman was conducting with the Sultan of Achin.

The Chinaman may have been a worthless person, but one wonders what happened to him in the end; and, in any case, the proceeding is open to criticism. Then in his old age he got into some disreputable scrape which caused the congregation with which he worshipped to ask him to resign his membership. Even the honourable council was startled, and dismissed him from his employment, though characteristically enough not actually from their service. This action of the council fixes the character of the man better than any scandalous story. He was valuable, but compromising.

All those regrettable details came to my knowledge quite recently in a very amusing and interesting book, but I

must confess that my early admiration for Tasman as one of the early fathers of militant geography has not been affected very much by it. Remiss or not, he had in the course of his voyages mapped 8,000 miles of an island which by common consent is called now a continent, a geologically very old continent indeed, but which is now the home of a very young Commonwealth with all the possibilities of material and intellectual splendour still hidden in its future.

I like to think that in that portion of the Elysian Fields set apart for great navigators, James Cook would not refuse to acknowledge the civilities of Abel Tasman, a fellow seaman who had first reported the existence of New Zealand in the perplexed bewildered way of those times, 130 years before Captain Cook on his second voyage laid for ever the ghost of the Terra Australis Incognita and added New Zealand to the scientific domain of the geography triumphant of our day.

Captain Cook's Scientific Work

NO shade of remissness nor doubtful motive rests upon the achievements of Captain Cook, who came out of a labourer's cottage to take his place at the head of the masters of maritime exploration who worked at the great geographical problem of the Pacific. Endeavour was the name of the ship which carried him on his first voyage, and it was also the watchword of his professional life. Resolution was the name of the ship he commanded himself on his second expedition, and it was the determining quality of his soul. I will not say that it was the greatest, because he had all the other manly qualities of a great man.

The voyages of the early explorers were prompted by an acquisitive spirit, the idea of lucre in some form, the desire of trade or the desire of loot, disguised in more or less fine words.



By Joseph Conrad

But Cook's three voyages are free from any taint of that sort. His aims needed no disguise. They were scientific. His deeds speak for themselves with the masterly simplicity of a hard-won success. In that respect he seems to belong to the single-minded explorers of the nineteenth century, the late fathers of militant geography whose only object was the search for truth. Geography is a science of facts, and they devoted themselves to the discovery of facts in the configuration and features of the main continents.

It was the century of landmen investigators. In saying this I do not forget the Polar explorers, whose aims were certainly as pure as the air of those high latitudes where not a few of them laid down their lives for the advancement of geography. Seamen, men of science, it is difficult to speak of them without admiring emotion. The dominating figure among the seamen explorers of the first half of the nineteenth century is that of another good man, Sir John Franklin, whose fame rests not only on the extent of his discoveries, but on professional prestige and high personal character. This great navigator, who never returned home, served geography even in his death. The persistent efforts extending over ten years to ascertain his fate advanced greatly our knowledge of the Polar regions.

Tragedy of Sir John Franklin

AS gradually revealed to the world this fate appeared the more tragic in this, that for the first two years the way of the Erebus and Terror expedition seemed to be the way to the desired and important success, while in truth it was all the time the way of death, the end of the darkest drama perhaps played behind the curtain of Arctic mystery.

The last words unveiling the mystery of the Erebus and Terror expedition were brought home and disclosed to the

world by Sir Leopold McClintock, in his book, "The Voyage of the Fox in the Arctic Seas." It is a little book, but it records with manly simplicity the tragic ending of a great tale. It so happened that I was born in the year of its publication. Therefore, I may be excused for not getting hold of it till ten years afterwards. I can only account for it falling into my hands by the fact that the fate of Sir John Franklin was a matter of European interest, and that Sir Leopold McClintock's book was translated, I believe, into every language of the white races.

Romance of Polar Exploration

MY copy was probably in French. But I have read the work many times since. I have now on my shelves a copy of a popular edition got up exactly as I remember my first one. It contains the touching facsimile of the printed form filled in with a summary record of the two ships' work, the name of "Sir John Franklin commanding the expedition" written in ink, and the pathetic underlined entry "All well." It was found by Sir Leopold McClintock under a cairn and it is dated just a year before the two ships had to be abandoned in their deadly ice-trap, and their crews' long and desperate struggle for life began.

There could hardly have been imagined a better book for letting in the breath of the stern romance of Polar exploration into the existence of a boy whose knowledge of the poles of the earth had been till then of an abstract formal kind as mere imaginary ends of the imaginary axis upon which the earth turns. The great spirit of the realities of the story sent me off on the romantic explorations of my inner self; to the discovery of the taste for poring over maps; and revealed to me the existence of a latent devotion to geography which interfered with my devotion (such as it was) to my other schoolwork.

Unfortunately, the marks awarded for that subject were almost as few as the hours apportioned to it in the school curriculum by persons of no romantic sense for the real, ignorant of the great possibilities of active life; with no desire for struggle; no notion of the wide spaces of the world—mere bored professors, in fact, who were not only middle-aged but looked to me as if they had never been young. And their geography was very much like themselves, a bloodless thing with a dry skin covering a repulsive armature of uninteresting bones.

Inspiration in Map-gazing

I WOULD be ashamed of my warmth in digging up a hatchet which has been buried now for nearly fifty years if those fellows had not tried so often to take my scalp at the yearly examinations. There are things that one does not forget. And besides, the geography which I had discovered for myself was the geography of open spaces and wide horizons built up on men's devoted work in the open air, the geography still militant but already conscious of its approaching end with the death of the last great explorer. The antagonism was radical.

Thus it happened that I got no marks at all for my first and only paper on Arctic geography, which I wrote at the age of thirteen. I still think that for my tender years it was an erudite performance. I certainly did know something of Arctic geography, but what I was after really, I suppose, was the history of Arctic exploration. My knowledge had considerable gaps, but I managed to compress my enthusiasm into just two pages, which in itself was a sort of merit. Yet I got no marks. For one thing it was not a set subject. I believe the only comment made about it to my private tutor was that I seemed to have been wasting my time in reading books of travel instead of attending to

my studies. I tell you, those fellows were always trying to take my scalp. On another occasion I just saved it by proficiency in map drawing. It must have been good, I suppose; but all I remember about it is that it was done in a loving spirit.

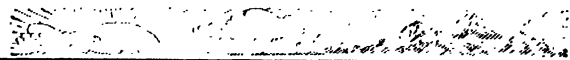
I have no doubt that star-gazing is a fine occupation, for it leads you within the borders of the unattainable. But map-gazing, to which I became addicted so early, brings the problems of the great spaces of the earth into stimulating and directing contact with sane curiosity and gives an honest precision to one's imaginative faculty. And the honest maps of the nineteenth century nourished in me a passionate interest in the truth of geographical facts and a desire for precise knowledge which was extended later to other subjects.

Unveiling Africa's Mystery

FOR a change had come over the spirit of cartographers. From the middle of the eighteenth century on the business of map-making had been growing into an honest occupation, registering the hard-won knowledge, but also in a scientific spirit recording the geographical ignorance of its time. And it was Africa, the continent out of which the Romans used to say some new thing was always coming, that got cleared of the dull imaginary wonders of the dark ages which were replaced by exciting spaces of white paper. Regions unknown! My imagination could depict to itself there worthy, adventurous and devoted men, nibbling at the edges, attacking from north and south and east and west, conquering a bit of truth here and a bit of truth there, and sometimes swallowed up by the mystery their hearts were so persistently set on unveiling.

Among them Mungo Park, of western Sudan, and Bruce, of Abyssinia, were, I believe, the first friends I made when I began to take notice, I mean





geographical notice, of the continents of the world into which I was born. The fame of these two had already been for a long time European, and their figures had become historical by then. But their story was a very novel thing to me, for the very latest geographical news that could have been whispered to me in my cradle was that of the expedition of Burton and Speke, the news of the existence of Tanganyika and of Victoria Nyanza.

I stand here confessed as a contemporary of the Great Lakes. Yes, I could have heard of their discovery in my cradle, and it was only right that, grown to a boy's estate, I should have in the later sixties done my first bit of map-drawing and paid my first homage to the prestige of their first explorers. It consisted in entering laboriously in pencil the outline of Tanganyika on my beloved old atlas, which, having been published in 1852, knew nothing, of course, of the Great Lakes. The heart of its Africa was white and big.

In the Foot-prints of Discovery

SURELY it could have been nothing but a romantic impulse which prompted the idea of bringing it up to date with all the accuracy of which I was capable. Thus I could imagine myself stepping in the very foot-prints of geographical discovery. And it was not all wasted time. As a bit of prophetic practice it was not bad for me. Many years afterwards, as second officer in the Merchant Service, it was my duty to correct and bring up to date the charts of more than one ship, according to the Admiralty notices. I did this work conscientiously and with a sense of responsibility; but it was not in the nature of things that I should ever recapture the excitement of that entry of Tanganyika on the blank of my old atlas.

It must not be supposed that I gave up my interest in the Polar regions.

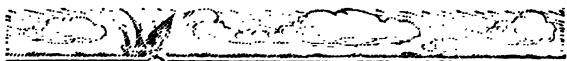
My heart and my warm participation swung from the frigid to the torrid zone, fascinated by the problems of each, no doubt, but more yet by the men who, like masters of a great art, worked each according to his temperament to complete the picture of the earth. Almost each day of my schoolboy life had its hour given up to their company. And to this day I think that it was a very good company.

Vivid Visions of Dead Heroes

NOT the least interesting part in the study of geographical discovery lies in the insight it gives one into the characters of that special kind of men who devoted the best part of their lives to the exploration of land and sea. In the world of mentality and imagination which I was entering it was they and not the characters of famous fiction who were my first friends. Of some of them I had soon formed for myself an image indissolubly connected with certain parts of the world. For instance, western Sudan, of which I could draw the rivers and principal features from memory even now, means for me an episode in Mungo Park's life.

It means for me the vision of a young, emaciated, fair-haired man, clad simply in a tattered shirt and worn out breeches, gasping painfully for breath and lying on the ground in the shade of an enormous African tree (species unknown), while from a neighbouring village of grass huts a charitable black-skinned woman is approaching him with a calabash full of pure cold water, a simple draught which, according to himself, seems to have effected a miraculous cure. The central Sudan, on the other hand, is represented to me by a very different picture, that of a self-confident and keen-eyed person in a long cloak and wearing a turban on his head, riding slowly towards a gate in the mud walls of an African city,





Romance of Travel

from which an excited population is streaming out to behold the wonder—Dr. Barth, the protégé of Lord Palmerston, and subsidised by the British Foreign Office, approaching Kano, which no European eye had seen till then, but where forty years later my friend Sir Hugh Clifford, the Governor of Nigeria, travelled in state in order to open a college.

I must confess that I read that bit of news and inspected the many pictures in the illustrated papers without any particular elation. Education is a great thing, but Dr. Barth gets in the way. Neither will the monuments left by all sorts of empire builders suppress for me the memory of David Livingstone. The words Central Africa bring before my eyes an old man with a rugged, kind face and a clipped, grey moustache, pacing wearily at the head of a few black followers along the reed-fringed lakes towards the dark native hut on the Congo head waters in which he died, clinging in his very last hour to his heart's unappeased desire for the sources of the Nile.

Boyhood's Dream Realized

THAT passion had changed him in his last days from a great explorer into a restless wanderer refusing to go home any more. From his exalted place among the blessed of militant geography and with his memory enshrined in Westminster Abbey he can well afford to smile without bitterness at the fatal delusion of his exploring days, a notable European figure and the most venerated perhaps of all the objects of my early geographical enthusiasm.

Once only did that enthusiasm expose me to the derision of my schoolboy chums. One day, putting my finger on a spot in the very middle of the then white heart of Africa, I declared that some day I would go there. My chums' chaffing was perfectly justifiable.

I myself was ashamed of having been betrayed into mere vapouring. Nothing was further from my wildest hopes. Yet it is a fact that, about eighteen years afterwards, a wretched little stern-wheel steamboat I commanded lay moored to the bank of an African river.

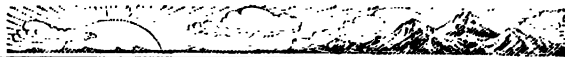
Night in the Wilderness

EVERYTHING was dark under the stars. Every other white man on board was asleep. I was glad to be alone on deck smoking the pipe of peace after an anxious day. The subdued thundering mutter of the Stanley Falls hung in the heavy night air of the last navigable reach of the Upper Congo, while no more than ten miles away, in Reshid's camp just above the Falls, the yet unbroken power of the Congo Arabs slumbered uneasily. Their day was over. Away in the middle of the stream, on a little island nestling all black in the foam of the broken water, a solitary little light glimmered feebly and I said to myself with awe, "This is the very spot of my boyish boast."

A great melancholy descended on me. Yes, this was the very spot. But there was no shadowy friend to stand by my side in the night of the enormous wilderness, no great haunting memory, but only the unholy recollection of a prosaic newspaper "stunt" and the distasteful knowledge of the vilest scramble for loot that ever disfigured the history of human conscience and geographical exploration. What an end to the idealised realities of a boy's daydreams! I wondered what I was doing there, for indeed it was only an unforeseen episode, hard to believe in now, in my seaman's life. Still, the fact remains that I have smoked a pipe of peace at midnight in the very heart of the African continent, and felt very lonely there.

But never so at sea. There I never felt lonely, because there I never lacked company. The company of





great navigators, the first grown-up friends of my early boyhood. The unchangeable sea preserves for one the sense of its past, the memory of things accomplished by wisdom and daring among its restless waves. It was those things that commanded my profoundest loyalty, and perhaps it is by the professional favour of the great navigators ever present to my memory that, neither explorer nor scientific navigator, I have been permitted to sail through the very heart of the old Pacific mystery, a region which even in my time remained very imperfectly charted and still remote from the knowledge of men.

An Unheard of Proposition

IT was in 1888, when in command of a ship loading in Sydney a mixed cargo for Mauritius, that, one day, all of a sudden, all the deep-lying historic sense of the exploring adventures in the Pacific surged up to the surface of my being. Almost without reflection I sat down and wrote a letter to my owners suggesting that, instead of the usual southern route, I should take the ship to Mauritius by way of Torres Strait. I ought to have received a severe rap on the knuckles, if only for wasting their time in submitting such an unheard of proposition.

I must say I awaited the reply with some trepidation. It came in due course, but instead of beginning with the chiding words, "We fail to understand, etc., etc.," it simply called my attention in the first paragraph to the fact that "there would be an additional insurance premium to pay for that route," and so on, and so on. And it ended like this: "Upon the whole, however, we have no objection to your taking the ship through Torres Strait if you are certain that the season is not too far advanced to endanger the success of your passage by the calms which,

as you know, prevail at times in the Arafura Sea."

I read, and in my heart I felt compunctious. The season was somewhat advanced. I had not been scrupulously honest in my argumentation. Perhaps it was because I never expected it to be effective. And here it was all left to my responsibility. My letter must have struck a lucky day in Messrs. H. Simpson & Sons' offices—a romantic day. I won't pretend that I regret my lapse from strict honesty, for what would the memory of my sea-life have been for me if it had not included a passage through Torres Strait, in its fullest extent, from the mouth of the great Fly River right on along the track of the early navigators.

Navigating Torres Strait

THE season being advanced, I insisted on leaving Sydney during a heavy south-east gale. Both the pilot and the tug-master were scandalised by my obstinacy, and they hastened to leave me to my own devices while still inside Sydney Heads. The fierce south-easter caught me up on its wings, and no later than the ninth day I was outside the entrance of Torres Strait, named after the undaunted and reticent Spaniard who, in the seventeenth century, first sailed that way without knowing where he was, without suspecting he had New Guinea on one side of him and the whole solid Australian continent on the other—he thought he was passing through an archipelago—the Strait whose existence for a century and a half had been doubted, argued about, squabbled over by geographers, and even denied by the disreputable but skilful navigator, Abel Tasman, who thought it was a large bay, and whose true contours were first laid down on the map by James Cook, the navigator without fear and without reproach, the greatest in achievement and character of the later



Romance of Travel By Joseph Conrad

seamen fathers of militant geography. If the dead haunt the scenes of their earthly exploits, then I must have been attended benevolently by those three shades—the inflexible Spaniard of such lofty spirit that in his report he disdains to say a single word about the appalling hardships and dangers of his passage; the pig-headed Hollander who, having made up his mind that there was no passage there, missed the truth by only fifty miles or so; and the great Englishman, a son of the soil, a great commander and a great professional seaman, who solved that question among many others and left no unsolved problems of the Pacific behind him. Great shades! All friends of my youth!

Sunset over the Arafura Sea

IT was not without a certain emotion that, commanding very likely the first and certainly the last, merchant ship that carried a cargo that way—from Sydney to Mauritius—I put her head at daybreak for Bligh's Entrance, and packed on her every bit of canvas she could carry. Windswept, sunlit empty waters were all around me, half veiled by a brilliant haze. The first thing that caught my eye upon the play of green white-capped waves, was a black speck marking conveniently the end of a low sandbank. It looked like the wreck of some small vessel.

I altered the course slightly in order to pass close, with the hope of being able to read the letters on her stern. They were already faded. Her name was Honolulu. The name of the port I could not make out. The story of her life is known by now to God alone, and the winds must have drifted long ago around her remains a quiet grave of the very sand on which she had died. Thirty-six hours afterwards, of which about nine were spent at anchor, approaching the other end of the Strait, I sighted a gaunt, grey wreck of a big American ship lying high and dry on the southernmost of the Warrior Reefs. She had been there for years. I had heard of her. She was legendary. She loomed

up, a sinister and enormous memento mori raised by the refraction of this serene afternoon above the far-away line of the horizon drawn under the sinking sun.

And thus I passed out of Torres Strait before the dusk settled on its waters. Just as a clear sun sank ahead of my ship I took a bearing of a little island for a fresh departure, an insignificant crumb of dark earth, lonely, like an advanced sentinel of that mass of broken land and water, to watch the approaches from the side of the Arafura Sea. But to me it was a hallowed spot, for I knew that the Endeavour had been hove to off it in the year 1762 for her captain, whose name was James Cook, to go ashore for half an hour. What he could possibly want to do I cannot imagine. Perhaps only to be alone with his thoughts for a moment. The dangers and the triumphs of exploration and discovery were over for that voyage. All that remained to do was to go home, and perhaps his great and equable soul, tempered in the incessant perils of a long exploration, wanted to commune with itself at the end of its task. It may be that on this dry crumb of the earth's crust which I was setting by compass he had tasted a moment of perfect peace. I could depict to myself the famous seaman navigator, a lonely figure in a three-cornered hat and square-skirted laced coat, pacing to and fro slowly on the rocky shore, while in the ship's boat, lying off on her oars, the coxswain kept his eyes open for the slightest sign of the captain's hand.

Hallowed Face of the Waters

THUS the sea has been for me a hallowed ground, thanks to those books of travel and discovery which have peopled it with unforgettable shades of the masters in the calling which, in a humble way, was to be mine, too; men great in their endeavour and in hard-won successes of militant geography; men who went forth each according to his lights and with varied motives, laudable or sinful, but each bearing in his breast a spark of the sacred fire.

ABYSSINIA & ERITREA

Highlands & Lowlands of Ethiopia

by Charles F. Rey

Author of "Unconquered Abyssinia as It is To-Day"

LYING between the tropic of Cancer and the Equator, situated centrally, opposite Aden, is a high plateau blessed with a delightful climate, dotted with huge peaks and scored by deep chasms, a fringe of low-lying desert around, and within it a miscellany of varied races.

Such is the old empire of Ethiopia with its recent conquests, politically divided to-day into Abyssinia and Eritrea, together covering nearly 400,000 square miles, that is to say an area approximately four and a half times that of Great Britain.

Three Thousand Miles of Land Frontier

Modern Abyssinia is entirely cut off from the sea by European possessions. Eritrea on the north and east, French, British and Italian Somaliland on the east, divide her from the Red Sea and the Indian Ocean; Kenya, Uganda and Anglo-Egyptian Sudan complete the encirclement of her 3,000 miles of land frontier, nearly two-thirds of which marches with British territory. Her boundary zones are for the most part low-lying, semi-desert lowlands, except to the north, where the Eritrean highlands form the extremity of the Abyssinian plateau. From these highlands, Eritrea extends in a long narrow strip of low-lying territory for about 500 miles between the Red Sea and Abyssinia.

Physically, Abyssinia and Eritrea fall into three broad divisions. To the north-east is the great Danalia lowland, the desert of the Adals or the Afar country, sometimes sinking below sea-level, in the form of a triangle the points of which are Massawa, Ankober and Berbera. This country is the entrance

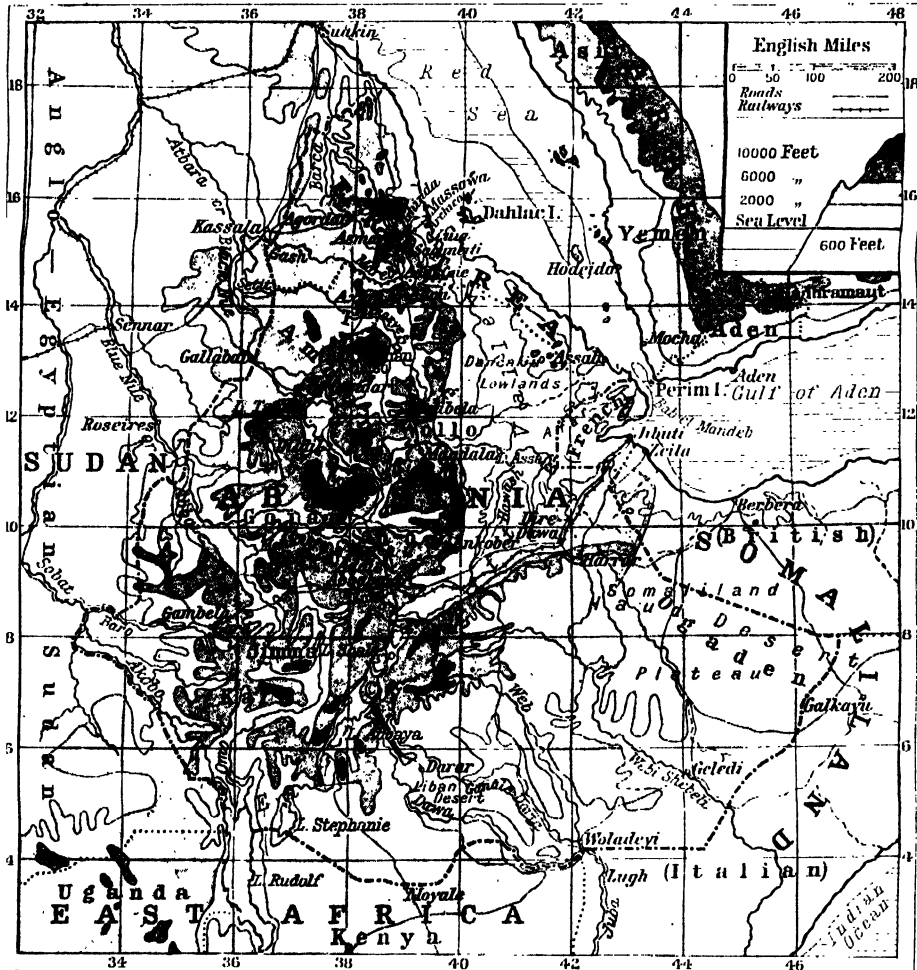
to the African section of the Great Rift Valley, which, extending from northern Palestine to southern Africa, runs right across Abyssinia between the two other physical divisions of the country, viz. the Somaliland and the Abyssinian plateaux.

The Somaliland plateau, of an average height of 2,500 to 4,000 feet, stretches from Berbera westward to the chain of lakes running from the south of Addis Abbaba to Lake Rudolf, and falls away to the south into the Libyan and Haud deserts, broken here and there by river valleys. The main Abyssinian plateau, of an average height of 6,000 to 7,000 feet, with peaks running up to 15,500 feet, embraces the rest of the country, dropping into the Sudan to the west and north-west.

River that Dies in the Sands

These plateaux are cut into valleys 3,000 and 4,000 feet deep by great rivers, which bring down immense quantities of rich soil in their course. The Abbai, or Blue Nile, runs in a great circle south from Lake Tsana round Gojam north to Khartum; the Tak-kazyé runs into the Atbara, or Black Nile, to the north; and the Hawash runs eastwards from the centre of the country only to die in the sands before it can reach the Red Sea. Other rivers are the Omo, the Webi Shebeli, the Ganale Doria and the Web (forming the Juba), and the Baro.

On the whole, comparatively little is known of the geology of the country; the massif consists of igneous rocks, obviously of volcanic origin, and between the trap rocks forming the upper series, and the base of metamorphics, a series



PHYSICAL MAP OF MODERN ABYSSINIA AND ERITREA

of limestones and sandstones intervenes. The upper stratum of soil is very rich doubtless owing to the prevalence of trap rocks; wherever basaltic rocks prevail the soil is especially fertile, somewhat argillaceous, black or brown in colour. Near the coast is considerable alluvial deposit; the plain around Zula consists of alluvium, and farther north is a plain of sand and gravel.

In addition to the fertility of their soil, the Abyssinians enjoy on their plateaux a climate that is eminently healthy and stimulating for both white man and native. The temperature throughout the year is akin to

that of a temperate English summer day, and the cold nights ensure rest-giving sleep.

Although terrific storms occur in the rainy season, which lasts only from mid-June to the end of September, and the rain falls in cascades, between the storms the clouds disperse and brilliant sunshine dries the atmosphere. During the rest of the year an unclouded sky and fresh breezes are the rule, with the exception of some weeks in March and April (the period of the so-called "little rains"), when a few showers freshen up the vegetation and the soil. The average annual rainfall is about one and a quarter metres (50 in.) at Addis

Abbaba, and less elsewhere. In the lowlands the climate is hot and unhealthy, but the rainfall is less; the rainy season in the Dancalia lowland occurring during October to March.

Vegetation is luxuriant and of infinite variety. Forests, prairie land, rolling steppes, grassland and park-like country alternate, and in the course of a single day's journey the traveller may meet with tropical, semi-tropical, and European growth.

The fauna include almost every species usually found in Africa as well as some not met with elsewhere, such as the nyala, a beautiful member of the kudu family, giant tortoises, and curious varieties of the wild pig and of the baboon. Birds of innumerable kinds, many clothed in the most exquisite plumage, abound; but many varieties of the larger animals are becoming more and more scarce since the introduction

of rifles, for game laws practically do not exist in this part of Africa.

There is a particularly good, though small, breed of pony, quite *sui generis*; the mules, donkeys and poultry of the country are also small, though numerous, as are the sheep, goats and cattle, the latter consisting mainly of the zebu, well-known for its hump, its drooping ears and its heavy dewlap.

The smallness of the animals is supposed to be due to the high altitudes in which they live, for unlike Switzerland, where the mountains are snow-covered barren peaks and the valleys rich and fertile, in Abyssinia the farmer lives and works and has his being in the high plateaux; and while he is materially assisted here by the conditions of soil and climate, he is seriously handicapped by lack of water during the dry season. Irrigation existed in the country over a couple of



Brown Brothers

COMMERCIAL LIFE IN ADDIS ABBABA: MARKETING GRAIN

All roads converge upon the immense market place, which teems with life and movement from the early morning hours. Grain sellers are numerous, for the natives have little trouble in producing crops in the rich soil of the table-land, despite the fact that their agricultural implements are exceedingly primitive. The principal grains include barley, maize and teff—a kind of millet



SCARRED AND TWISTED CHANNEL OF AN AFFLUENT OF THE HAWASH RIVER

One of the most striking geographical features of Abyssinia is the remarkable fluctuation in the volume of water discharged at different times by the streams and rivers. This is caused by the sudden and violent rains that take effect not only locally but, through the agency of the Atbara and White Nile rivers that rise in the Abyssinian mountains, in Egypt also. The stream seen in the photograph rises near Addis Ababa, and forms one of the head waters of the Hawash river which is joined at Asmara to the Sobat, the main river of the Abyss.

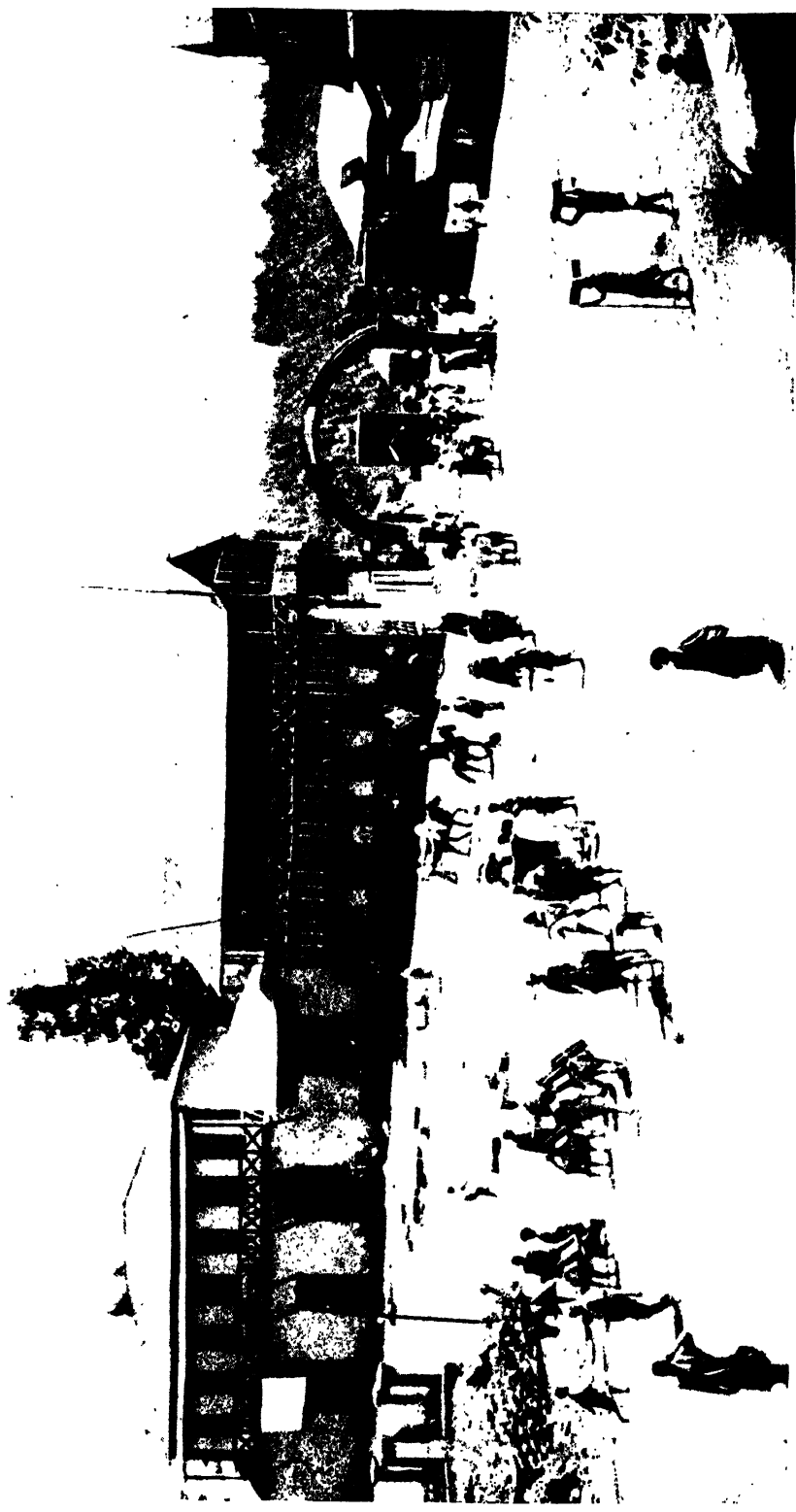
E. E. Burgess



E. E. Burg '88

SALESMANSHIP FOR LOCAL INDUSTRY: THE CENTRAL MARKET OF ADDIS ABABA

Set in the centre of the town, the market place of the Abyssinian capital is thronged every day by thousands. People begin to arrive soon after dawn, many of the traders being Armenians and Hindus. This market is the exchange centre for all local products, which include leather, dung-cake for firing, baskets, pottery and metal ware. A large business is also done in sheep and cattle. Boats like those in the middle of the photograph, or merely of heaped stones are erected on all sides. A good idea may be gained from this illustration of the extensive woodlands in the vicinity of the capital



E. E. BURGESS

MAIN GATE OF ADDIS ABBABA, ABYSSINIA'S HILL-GIRT CAPITAL

Addis Abbaba lies, amid forests of eucalyptus, about the foot of the Entoto Hills, which form part of the mountain system of Shoa, the south-central district of Abyssinia. The town itself consists of a number of villages grouped about the imperial palace, and is rather a collection of suburbs than a conglomerate city. The photograph shows the main gate, and crowded road that leads from it up to the gate of the palace, an insignificant collection of buildings surrounded by walls.

thousand years ago, but to-day it is hardly practised except in the north.

Agriculture and cattle raising are carried on in a manner primitive to a degree. Many more acres could be put under cultivation, and much more could be produced per acre, if modern methods were introduced, and especially if the system of taxation and the



feudal system in vogue were reformed. The ground is still broken up by wooden ploughs or by rows of men levering it up with long wooden poles; the crops are cut (close to the ear) by hand sickles or knives, and the corn is then trodden out by oxen and afterwards thrown up into the air by hand, when the wind blows away the chaff and leaves the grain, in exactly the same way as was the rule 2,000 to 3,000 years ago.

The produce mainly raised includes coffee, teff (the staple cereal for bread making), barley, chick-peas, oilseeds of various kinds, durra, maize, wheat, pepper and a little cotton; much land is also under grass.

With the exception of coffee, only sufficient crops are sown to provide for home consumption, and there is little or no exportation of the many forms of cereal and other agricultural produce which this land, so favoured of nature, could provide in such profusion.

The world's demand for the very excellent coffee berry produced in Abyssinia has for many years resulted in a profitable export trade, which shows every sign of prospective increase. Originally grown in the western province of Kassa (Kafa), whence it derives its name, the plant is said to have been transplanted to Yemen, where assiduous

cultivation produced the variety known as Mocha. Now the best Abyssinian coffee is the Harrar (or Harar) long berry, grown mainly in the province of that name; this is exported largely to Europe and America via the Red Sea. The coffee known as "Abyssinian wild" is *



PUBLIC BUILDINGS IN ADDIS ABBABA

Below is the Coptic Church of S. George, a round structure with the sanctuary in the center; above, the Bank of Abyssinia

grown in most of the rest of the country, but especially in the Goré district, whence it is shipped down the Sobat river to the Nile and on to Khartum, in which market it reigns supreme.

Cotton has been grown in Abyssinia for many years, and is as good as the best Egyptian; with proper cultivation and irrigation it might be made into a valuable national asset. As it is, the quantity produced is insufficient even for home needs, although the government



C. F. R.

BUSY INDUSTRY IN NATIVE HANDS

Basket weaving is at once one of the most important and attractive among native industries in Abyssinia. The work is done with long pins and the straw, beautifully woven and often of very fine texture, is of a variety of colours.

have recently abolished the tax on it to stimulate production. The cotton is ginned and spun by hand, very fine tissues being woven from it.

Little else of any importance in the way of industry is carried on beyond a little rough pottery and some quite good basket work of finely plaited straw. Nor has any effort been made to develop the latent possibilities of the enormous herds of cattle with which the country is stocked. These have been estimated at from ten to fifteen million head; but apart from exporting the hides, the people merely use them for their favourite diet of raw meat.

The "middleman" of commerce is the "nagadi" or travelling merchant, a good specimen of the industrious and capable Abyssinian; guiding his caravans

of pack-animals across country for weeks and even months on end, he forms practically the only link between producer and consumer, the few agencies of foreign firms being mainly engaged in collecting hides and coffee for export.

The produce of Eritrea is of the same general nature as that of Abyssinia, though less abundant; but such as it is it receives stimulation and assistance from the government, notably in the case of cotton growing. The prospects of either agriculture or cattle raising, are, however, by no means so full of possibilities, and apart from the benefit of better government, the only advantage Eritrea enjoys over its neighbour is the possession of a littoral which enables fishing to be carried on extensively in the Red Sea. Among the main reasons for the

maintenance by Abyssinians of their original forms of occupation are undoubtedly the paucity of communications and the defective character of those that exist. There is only one railway, that from Jibuti in French Somaliland to Addis Abbaba. Running as it does, however, through unproductive country for a large part of its length, and having no feeders or branch lines to tap the surrounding richer districts, it serves mainly as a link with the outside world. It also suffers from the heavy rains and from the thieving propensities of some of the half-tamed tribes through whose territory it passes; these folk have an incurable affection for the iron sleepers and copper telegraph wire as raw material for making spear-heads and



F. E. B

OUTSIDE THE WALLS OF THE ETHIOPIAN IMPERIAL PALACE

Constructed on the crest of a hill in the centre of Addis Abbaba is the Gebbi, or Palace, a series of imposing buildings including the ruler's residence and the government offices. Around this eminence lie regularly scattered villages, where dwell the dependent chiefs, feudal vassals of the sovereign one of whom is here seen riding through the street surrounded by his rabble of retainers.



F. E. Du'garr

EUCALYPTUS TREES BORDERING ADDIS ABBABA'S MAIN STREET

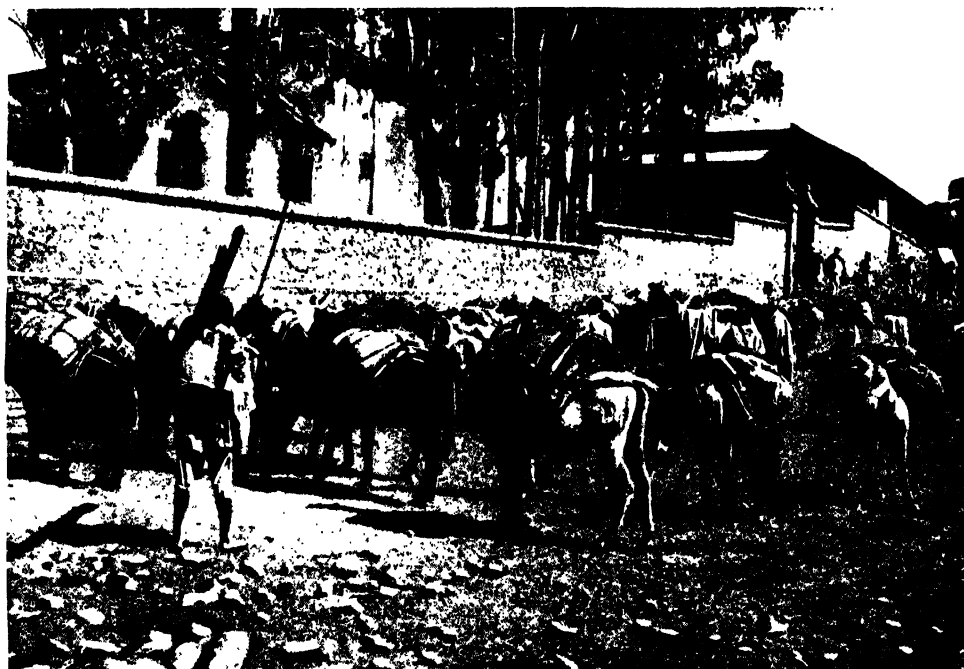
Several large towns are scattered over the rugged surface of Abyssinia, boasting varied historical associations as well as much-frequented local markets. Some have borne the proud title of royal capital, for the seat of government has varied according to the whim of the reigning potentate. Addis Abbaba, or New Flower, was chosen by Menelek II. in 1892 as the imperial residence.



C. F. Rey

LEISURELY TRAVELLING: CAMELS BEING LOADED WITH LUGGAGE

Apart from the railway, which has a distinctly limited service, transport in Abyssinia is entirely dependent on pack animals of which camels are best suited for certain part of the country. The scarcity of roads and their broken surfaces when they can be found, the uncertainty of fords and the lack of navigable rivers all add to the difficulties of transit.



C. F. Rey

NATIVE MERCHANDISE CONVEYED BY DONKEY CARAVAN

Besides camels, mules and donkeys are favourite pack animals in the country, though ponies are sometimes used and, near the capital, bullock wagons may be encountered. The caravan routes straggle over hills and along valleys. Such bridges as exist are blocked by the natives in the dry season that they may last the longer, caravans having to use the fords.



F. Rey

ABYSSINIAN PONIES, A BREED PECULIAR TO THE COUNTRY

Apparently a distinct breed, the Abyssinian horse is in size about equal to a polo pony and in some ways resembles the Arab. The natives who, as a rule, prefer mules, ride their ponies unshod, though the going is often of the worst. The small horses are natural jumpers, good-looking and well built, their prevailing colour being grey.



O. F. Rey

ABYSSINIAN CATTLE, AN UNEXPLOITED SOURCE OF WEALTH

Vast herds of cattle roam the plains of Abyssinia, but few, if any, are exported. The native mind holds the possession of livestock more valuable than an accumulation of money, and every animal leaving the country is merely considered as having been lost for either food or breeding. As a rule, these animals are small and have the hump common to most African cattle.



E. E. BURGESS

STREET AMONG HOUSES OF MUD AND STONE IN THE HILL TOWN OF HARRAR

Harrar, with a population of about fifty thousand, is built on the side of a hill. An ancient city, it is the centre and market town of the province of the same name. A track leads to Dire Dawa, whence the railway runs to the British port of Jibuti, on the Gulf of Aden, one hundred and eighty miles away. A stone wall runs along the top of the hill, and is punctuated by watch-towers and other buildings. Coffee is grown in the neighbourhood and exported in considerable quantities.

ornaments of all kinds. Apart from a few roads existing or under construction in and around Addis Abbaba, tracks form the only means of communication, and these picturesque arteries wind their way tortuously around mountains, across valleys, and through rivers which have generally to be forded. There are few bridges, and most of these are of primitive construction. The rivers are non-navigable, being torrents after the rains and mere streams at other times.

There is a telegraph service from the capital to Jibuti which is fairly efficient; and an Italian line runs from Addis to Kassala via Asmara and thence to Europe—it is, however, liable to frequent interruptions. There is also a line from Addis to Goré in the west, but this is generally out of order.

Problems of Transport and Travel

Altogether some 2,000 miles of telegraph wire are available, and a fairly extensive long-distance telephone service, which, strange to say, gives pretty good results. No wireless system is in operation, though there is a station at Gambela, in the district leased to the British Government by treaty.

With the exception of the railway already referred to, all transport is by caravans of pack animals: mules, donkeys and ponies predominating in the highlands, and camels in the low-lying districts. These caravans follow certain well-indicated routes, but their frequency is much reduced in the rainy season, when transport and travel become extremely difficult, and in some districts indeed impossible.

Caravan routes form the sole channel of communication between Abyssinia and Eritrea, but Eritrea boasts of a railway from the port of Massawa to Asmara, and on to Cheren (Keren), about 140 miles in all. Extensions of this line are contemplated to Agordat and to the River Setit in the south-west corner of the province bordering on the Sudan and Abyssinia. There are also some 500 miles of carriage roads on some of which

motor services have been established, so that on the whole Eritrea, in proportion to its size, is better served in this respect than Abyssinia. The same remark applies to its telegraph service, for it has about 1,200 miles of wire and a wireless station as well.

Commerce and Communications

Eritrea possesses in Massawa probably the best harbour on the Red Sea, and when the various railway extensions referred to have been completed, Massawa should become the most accessible port, not only for Eritrea, but also for the northern districts of Abyssinia and for portions of the Sudan; indeed, it is likely to become a serious competitor to Port Sudan.

Although in ancient times the Abyssinians were a great trading nation, exchanging their produce with that of Egypt, Arabia, Persia and even India, yet, owing to lack of communications, absence of coastline and the ceaseless state of warfare in which the country has existed, the total annual volume of Abyssinia's external trade cannot be estimated at much above £2,500,000 to £3,000,000 to-day.

Addis Abbaba's Daily Market

No data are available as to the value of the internal trade; but every town and large village has its market place, to which picturesque strings of heavily laden pack animals may be seen streaming on the appointed days. Most notable of these is Addis Abbaba, where every day is market day, and where the teeming thousands, with their hundreds of beasts of burden, that fill the great red-earthed centre of the town, make up a wonderful picture, exhibiting every variety of native produce on the piles of stones that serve as stalls.

Trade with the outside world consists mainly of hides, skins, coffee from Harrar and the east for Europe and America, coffee from the west bound for the Sudan, wax, ivory, and a few smaller items. Imports, which come mainly



E. R. Burgess

ON THE ROAD TO DIRÉ-DAWA: A LAST VIEW OF HARRAR

Harrar province, though mountainous, is known as "the Garden of Abyssinia." A glance over this prospect of the clustered roofs of its capital shows the prevailing mud and stonework which is relieved by the white walls of churches, public buildings, and the houses of the prosperous, which, built of dressed stone, are often covered with a kind of plaster called *chika*.

from India, Japan, the U.S.A. and England, consist for the most part of cotton yarns and piece goods, which ought to amount to a very respectable figure if developed, as the universal form of clothing of the Abyssinians consists of cotton trousers, shirt and "chamma," a piece of material from six to twelve yards in length, worn somewhat as the old Roman toga. Other forms of imported foreign produce are building materials (especially corrugated iron roofing), enamel ware, glass, china, silkstuffs, and a variety of oddments. Trading is largely in the hands of Arabs, Indians, Greeks and Armenians, although a few European houses are represented.

So far as Eritrea is concerned, its European trade is mostly with Italy - the customs arrangements are devised for this purpose - and there is no means of measuring the value of the traffic to and from Abyssinia.

The principal town in Abyssinia is Addis Abbaba, the capital, which houses

some 60,000 persons in normal times, although during the national feasts the great chiefs bring in many thousands of soldiers and retainers, and camp them in and around the city. Two rivers run through the town, which is built on undulating ground at the foot of the Entoto hills, and, taken all in all, is picturesque and even fascinating, with its quaint conglomeration of white buildings standing up from among the thousands of native tukuls in a sea of foliage. For, thanks to the Emperor Menelik's foresight in introducing the eucalyptus, which grows freely in Abyssinia, Addis is literally bowered in trees; woods surround the town, and, indeed, straggle all over it.

The better-class Abyssinians, European traders, and the Indian and Arab merchants live in stone-built tin-roofed houses, the ugliness of which is to some extent mitigated by the trees and gardens surrounding them. The only really good buildings, however, in or near the town, are the Foreign Legations,

in lovely grounds some four miles out, the Bank of Abyssinia, the regent's small palace, and the Church of S. George. The official palace, or Gebbi, is a collection of buildings of every sort and description from stone structures to tents, surrounded by three or four large courtyards.

Among other towns is Diré-Dawa, a thriving little place of some 30,000 inhabitants midway on the railway to the coast, rejoicing in roads and a water supply ; it owes its prosperity to having been "rail-head" for some years and to being the collecting centre for the province of Harrar, in which function it has displaced the quaint old town of that name, for so long closed to Europeans and first visited by Burton.

Historically, Ankober, in Shoa, is interesting as having been the capital of the country during a number of years, though from this point of view

pride of place must undoubtedly be given to Axum, far away in the north. Centuries of history and legend surround this ancient city, where all the kings of Abyssinia were crowned, and where monuments over 1,400 years old testify to the glories of the country's past.

In Gondar, north of Lake Tsana, stand some of the fine buildings erected by the Portuguese in the sixteenth and seventeenth centuries, while Lalibela is famous for the wonderful monolithic churches hewn out of the rock in the twelfth century, and so graphically described by Alvarez.

Monkorer or Debra Markos is the principal town in the fertile and well-governed province of Gojam ; while Magdala in Wollo, Adoa in Tigré, Debra Tabor in Amhara and Gallabat (or Metemneh) on the Sudan frontier all evoke memories of battles materially affecting Abyssinia's story.



E. E. BURGESS

IN HARRAR, TRADE CENTRE OF SOUTH ABYSSINIA

Though Harrar is a busy city commercially, its streets are steep, narrow and uncleanly, while pavements are conspicuously absent and the road surfaces mostly boulders. Houses in this poorer quarter are of mud and undressed stone. Apart from the residences of the governor and foreign consuls few of them make any attempt at elaboration or solidity

In Eritrea the largest and most important towns are Massawa, hot and unhealthy, on the coast; and Asmara, the capital, well situated in the highlands about seventy miles inland. Archico, Zula and Assab on the coast; Glinda, Saganciti, Addi Caie, Cheren and Agordat, inland, are smaller places with populations of from 2,000 upwards.

No less remarkable or full of contrasts than their country are the Abyssinians, properly so-called, a Hamitic race adulterated by waves of Semitic invasion from Arabia and by inter-marriage with the negro peoples whom they have conquered. Their mentality has undoubtedly been affected by the geographical situation of their country, a bracing fertile mountainous plateau, and also by their history, a story of continuous warfare, which, although ending in ultimate victory, has absorbed all their energies and left them ignorant of and unaffected by the world's progress. So, although they are quick and intelligent, virile and warlike, their pride gives them an exaggerated idea of their abilities, and they couple

this with a complete absence of education and a deep suspicion of the foreigner and his ways.

The subject races are less advanced, less intelligent, and, otherwise, less attractive. The most numerous are the pastoral Galla—also Hamites—who outnumber the whole of the rest of the population put together, and live mainly in the south and south-west, though some branches are found on the eastern edge of the plateau.

The Shankalla are negro or negroid peoples; the Danakils and Somalis are nomadic folk of Hamitic origin, still somewhat turbulent and unsettled and altogether more primitive in their general characteristics than their Abyssinian overlords.

All these various peoples have, however, played their part in moulding the type of the dominant race or in shaping the story of this strange land, which, surrounded on all sides by the outposts of civilization, has yet retained many of its old-world conditions, and much of the mystery in which for centuries it has been enwrapped.

ABYSSINIA AND ERITREA: GEOGRAPHICAL SUMMARY

Natural Divisions. Abyssinian highlands, most northerly extension of the plateau of Africa; across the middle the Great Rift Valley, stretching from Palestine to South Africa, the Abyssinian section being known as the East Rift Valley; south-east, the Somaliland plateau.

Climate and Vegetation. Summer rain region on the edge of the desert; the rains on the Abyssinian highlands are due to the monsoon winds of the Indian Ocean, and provide the waters for the annual flood of the Nile. Average annual rainfall, 50 inches at Addis Abbaba. Parkland and scrub is typical of the lowlands, farmland of the high plateaux; considerable forests also exist in parts of the country. In general, healthy for Europeans, except in the lowlands.

Chief Rivers. The Blue Nile, Athara (which rises near Lake Tsana) and Sobat, right bank tributaries of the Nile; flooded in summer, a mere trickle in winter (v. also Egypt). The whole country is rich in lakes, Lake Tsana giving birth to the Blue Nile and Lake Rudolf, which borders Abyssinia on the south, being over 200 miles long.

Chief Industries. Agriculture for local purposes; high-grade coffee, cotton and cattle being the chief products, all mainly for home consumption with the exception of coffee.

Natural Outlets. By the Nile rivers to the Sudan and Egypt; by the Great Rift Valley to the sea.

Railways. Addis Abbaba to Jibuti; Cheren to Massawa.

Communications. Telegraph services from Addis Abbaba to Jibuti, to Kassala and Europe, and to Gore; also a long-distance telephone service. In Eritrea, a telegraph system and a wireless station.

Roads. Mainly caravan routes, although in Eritrea there are also fair carriage roads.

Trade. Foreign trade chiefly in the hands of aliens, Arabs, Greeks, Armenians, etc. Hides and coffee, and smaller items such as ivory goods, are exchanged for building materials and cotton goods.

Outlook. Progress will depend upon the development of cotton-growing in sympathy with the extension of cotton-fields in the Sudan, and the growing use of tropical grasslands for cattle in the interests of the world's production of meat (v. Brazil).

AFGHANISTAN

An Arid Land of Mountain Grandeur

by Lieut.-Col. P. T. Etherton

Author of "Across the Roof of the World"

AFGHANISTAN is the most important Mahomedan state in the Middle East, and one of the leading political and economic factors in Asia. It has an area of 245,000 square miles, with a population of approximately five millions of diverse elements. The boundaries on the south are Baluchistan, on the west Persia, on the north Turkistan, and on the east the North-West Frontier Province of India. Various boundary commissions have from time to time settled the Afghan border line, notably the Perso-Baluch Commission which determined its western limits in 1904-5.

Within the existing borders are six political divisions: Kabul, Herat, Kandahar, Farah, Badakhshan and Afghan Turkistan, the latter forming part of the Pamirs, more familiarly known as the "Roof of the World," a region that attracted much attention some years ago by reason of Russian activities there and fancied designs on India.

Land Reclaimed by Irrigation

The capital and controlling centre is at Kabul, and although in the past frequent revolts have shaken the country, it has been brought more or less under the control of Ameer Amanullah, who succeeded to the throne in 1919 and holds progressive ideas.

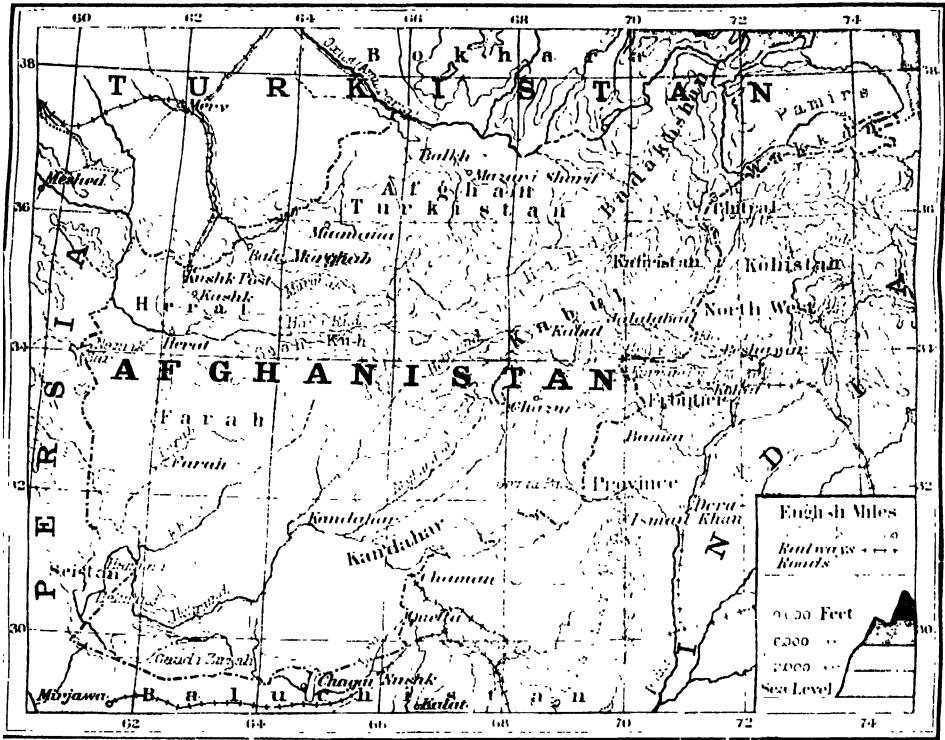
Speaking generally Afghanistan is a land of mountains and deserts, with large tracts of cultivated areas along the valleys and in the vicinity of rivers, while irrigation has done much to reclaim land and convert it into thriving oases, for the Afghans, as irrigation engineers, are surpassed only by the

Chinese. The soil is productive, especially in the Helmund and Seistan districts to the west and south-west, but in the north-east there is an entirely different geographical formation in the Pamirs. The latter are within the boundaries of Afghan Turkistan and of great importance from both a geographical and political aspect.

Peaks and Valleys of the Pamirs

These Pamirs are a vast tableland with a series of wide open valleys having gently sloping sides of an average elevation of 12,000 feet, many of the intervening peaks running up to 18,000 feet and over. They may also be compared to a succession of leads formed by the shale detritus which has accumulated through the ages, a mass of lofty, high-pitched ridges and gables, with narrow valleys, hollows or leads between, for the most part desolate and treeless, and frequently swept by high winds.

The climate of Afghanistan is noted for its extremes of temperature, the variation extending from 12° F. below zero in the winter to 120° F. in the shade during the hot weather. The variations are, however, less pronounced in the south, where the climate merges into that of India, but the monsoon, which sweeps over India from June to September, does not extend beyond the fringe of mountains forming the Indo-Afghan frontier. From the excessive rise and fall in the temperature originate the fevers and bowel complaints which are prevalent in the country. In common with most Central Asian peoples the Afghans during the summer sleep on the roofs of their



AFGHANISTAN: MAHOMEDAN STATE OF THE MIDDLE EAST

houses, and this gives rise to rheumatism and neuralgia in various forms, but beyond these complaints there are no diseases calling for particular mention. For nine months in the year there is almost continual sunshine, a prospect that is marred only by the frequent high winds and dust storms.

The vegetation is extensive and varied, the main ranges and spurs and offshoots therefrom producing conifers and rhododendrons to orchids and roses. The mountain flora includes pines, deodars, larch, walnut, hazel and yew trees, while the wild gooseberry, currant, hawthorn and rose are met with at altitudes of 5,000 to 9,000 feet above sea-level. Lower down, and up to 2,500 feet, are found the olive, acacia, verbena, mimosa and the commoner varieties of rose, while in the plains the camel thorn and leguminous thorns in general are extremely prolific.

In the land brought under cultivation artificial planting has effected much

improvement, the mulberry, ash, poplar and willow having been introduced, while the grape flourishes to an extent that has rendered the vineyards of Afghanistan noteworthy in Asia. The gum resin is grown for export to India, where it finds a ready sale in the preparation of a condiment.

In respect of its fauna Afghanistan is fairly representative. The tiger is found in Afghan Turkistan, the common leopard generally throughout the country, and the cheetah or hunting leopard in the desert stretches. The cheetah, reputed to be the fleetest animal in the world, is used in India for the chase of the antelope, a form of sport indulged in by the native chieftains. The wolf, hyena, red and black bear, and wild boar occur in all but the higher regions, while along the Helmund river in the south-west we find the wild ass. The mountains to the east and north hold several specimens

of the goat family, notably the markhor, urial and ibex, and on the Afghan Pamirs the finest of all the wild sheep, *Ovis Poli*, whose horns form one of the most prized trophies in the sportsman's collection. These wild sheep, the largest of their class, whose long, curved horns often measure upwards of 60 inches in length, were first made known to the world by the Venetian traveller Marco Polo, who traversed the Pamirs six hundred years ago and from whom the sheep derive their generic name.

Afghanistan is comparatively rich in mineral resources, but no organized attempt has been made to develop the minerals essential to modern metallurgical and chemical industries. Development of these on a scientific basis can only be carried out with the aid of foreign capital and enterprise, the introduction of which is distasteful to the Afghans. Gold and silver are found in payable quantities ;

coal, iron, copper and lead deposits occur to the east and north of Kabul, and in the vicinity of Herat ; antimony, sulphur, sal ammoniac, gypsum and nitre are in evidence, the latter being met with throughout the south-western part of the country, but as yet unexploited.

Trade and commerce are not in a flourishing condition, and there are no manufactures calling for special note. Silk is made on a limited scale in Herat and Kandahar, the latter place also producing the small silk prayer carpets so much in evidence in the mosques. Of exports to India wool is the staple item, and in a lesser degree silk, dried fruit, and asafetida, an oleo-gum resin obtained by incision from the root of *ferula foetida*, that emits a strong and penetrating odour.

Before the Great War a limited trade was carried on with Russian and Chinese Central Asia, but has been



GRIM KHYBER PASS CONNECTING INDIA WITH AFGHANISTAN

This narrow, gloomy defile, running through the Khyber Mountains in eastern Afghanistan into Indian territory, is the only path by which heavy traffic and artillery can pass from the one country to the other, and has always been a most important strategic point and the scene of severe struggles. The road through it from Peshawar to Kabul was made by the British



VISIBLE RESULT OF A POLITICAL TREATY

Since Great Britain agreed to recognize the complete independence of Afghanistan, hundreds of similar notices have been erected along the Indo-Afghan frontier, for access to their territory is carefully restricted by the Afghan Government.

confined since that time to a few articles such as pistachio nuts, foxskins and almonds, that meet a small demand.

The first essential in any country, and particularly so in one possessed of agricultural and mineral resources and somewhat varied in its terrestrial conditions such as Afghanistan, is adequate arterial communication. During the reign of the Ameer Ab-dur-Rahman, who died in 1901, good roads were constructed to link up the chief towns with the capital at Kabul, but strictly local communications are still confined to rough tracks and footpaths. Those through the mountains to Turkistan and the Pamirs in the north and north-east, and to Kashmir on the east, have the same general characteristics as all the mountain roads in the country — rocky, and presenting great difficulties in the summer when the water in the rivers is at high level.

The road from India through the Khyber Pass and via Jalalabad is in good condition, with motor traffic in vogue along it. The cooperation of the Indian authorities has enabled considerable progress to be achieved in the matter of road construction from the Indian side, the easiest route from a commercial point of view being

the Gomul Pass leading to the valley of the Indus at Dera Ismail Khan, as there are no passes or other formidable obstacles to overcome.

As a race the Afghans are tall and athletic with a handsome type of feature. Their bearing is proud and arrogant, and by nature they are vain and treacherous. The population is a mixed one, and may be classified under the following heads: Duranis, Ghilzais, Hazaras, Tajiks, and the tribes along the Indian border. Of these the Duranis have been the

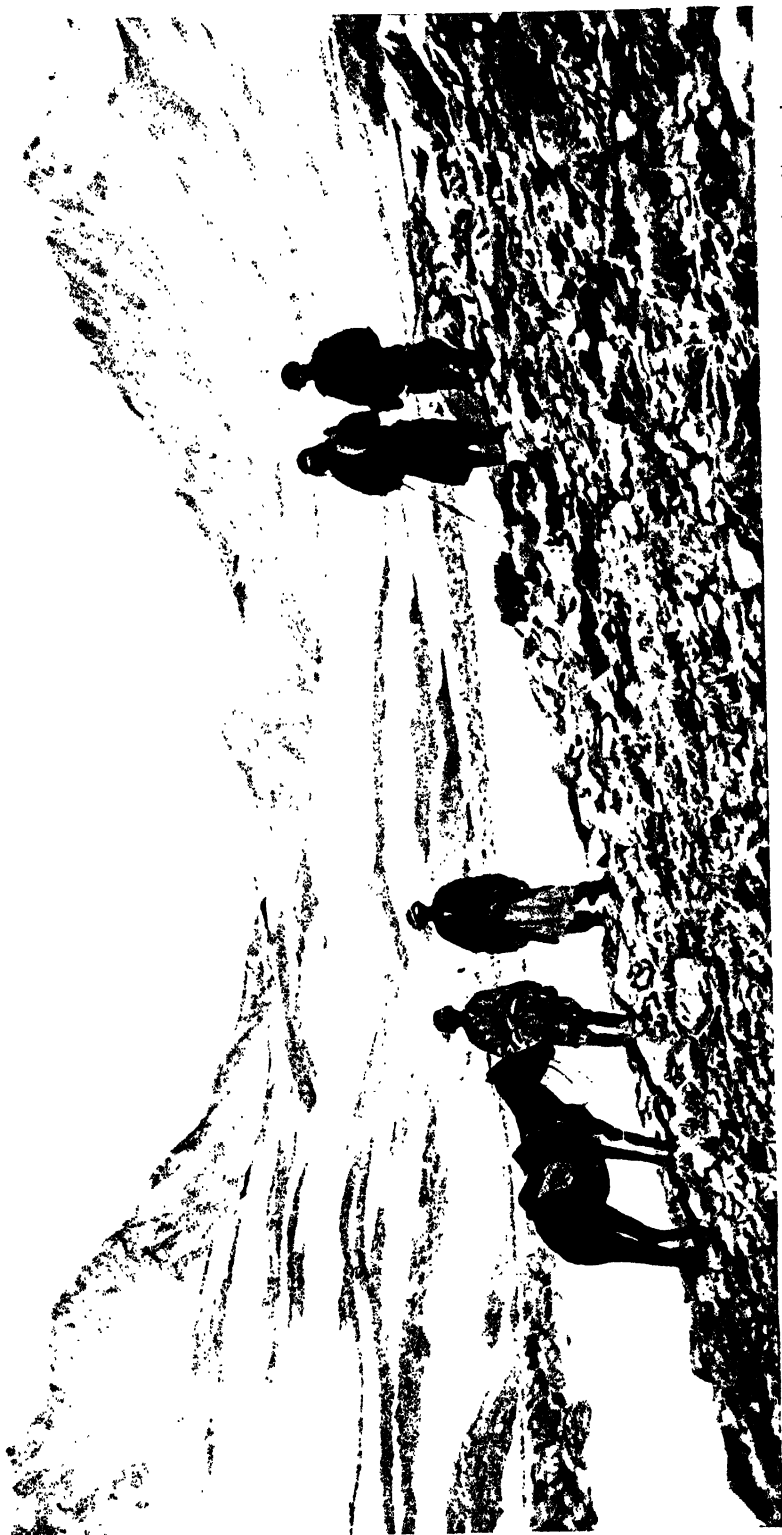
leaders since 1747, and it is from them that the ruling element in Afghanistan to day has sprung.

Next in importance come the Ghilzais, essentially a race of fighting men who lead an agricultural and pastoral life. From a numerical aspect the Hazaras are the important element in the population, and one that is of mixed descent. They occupy most of the west and north-west of the country, and although short in stature are of powerful physique and supply most of the manual labour in the cities and towns. The Tajiks are the settled and original population of Central Asia, and are met with in Afghan Turkistan. They are a pastoral people, very self-centred, and being of the Shiah sect of Mahomedans, have little in common with their neighbours.

The border tribes comprise those warring elements along the Indian frontier who are a constant source of trouble and annoyance to the Indian Government. The best known are the Afridi, inhabiting the mountainous country around Peshawar and the eastern outlet and offshoots of the Khyber Pass. They number approximately 100,000, and are of a warlike and predatory nature. The Shinwaris,



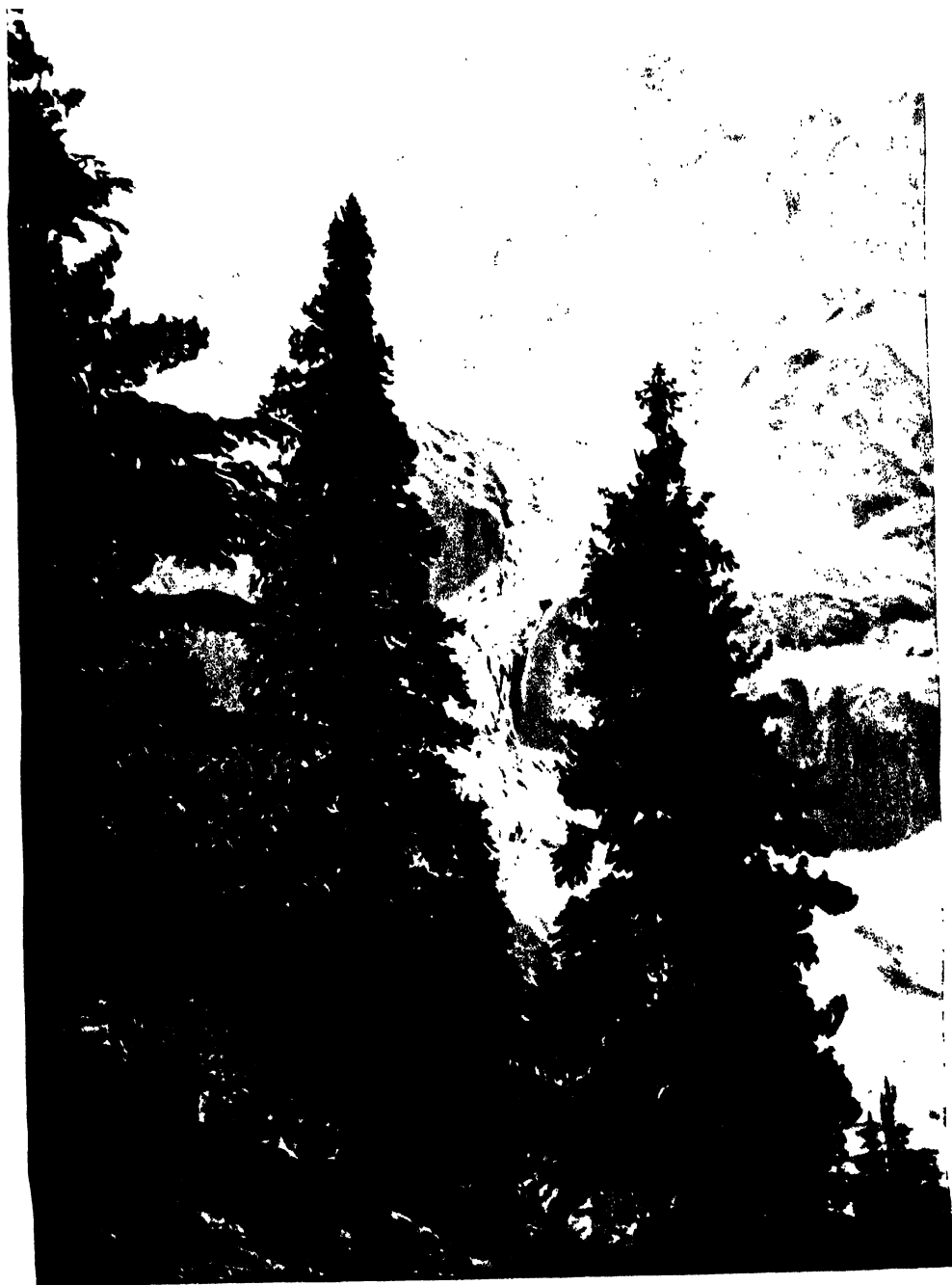
AFGHANISTAN. *Wood is scarce along the rocky borderland, and this woman's load is consequently of considerable value*



MONTEVIA. Daring and robust are the men who take the inaccessible and perilous pass leading through the spurs of the Hindu Kush mountains from Peshawar into the valleys of the Chinese state.



ALGERIAN. The dark green scrub among the rubble took the look of these mounded mounds when depending on their livestock for livelihood, consider and a well and a few a landscape as a landscape.



AFGHANISTAN. Grandeur of a glacier on the Chitral border with pine clad slopes that yield valuable timber for the plains



AFGHANISTAN. Note how the giant conifers, 120 feet high, at the foot of the precipice, are dwarfed by the declivity, a sheer 800 feet



AFGHANISTAN. In such rock throned fortresses as these the Afghans guard the few practicable entrances to their mountain-barred domain



AFGHANISTAN. Laden with salt and merchandise a native caravan picks its rocky way over the storm swept mountains into Chitral



AFGHANISTAN. Fruit and honey are at present the chief products of the north of the country.

Orakzais, and Yusufzais² are border clans without any special attributes. The common language is Pushtu, although among the various clans it differs somewhat in tone and inflexion.

Cultivation of the land is the chief occupation of the people generally. The Afghan abhors shopkeeping and in the majority of cases he owns the land upon which he lives. This antipathy to trades and crafts accounts for the absence of manufactures, of which mention has already been made.

Irrigation has done a great deal towards the improvement of crops as well as reclaiming land, and in all except the mountain areas there are two harvests, one sown at the end of autumn and reaped in the following summer, the other sown in spring and gathered in during the autumn. The first consists of wheat, barley and lentils, the second being rice, millet, maize, tobacco, beet and turnips.

Although there is a general lack of education, much has been done in recent years, and especially since 1919, to provide the requisite means; but existing educational facilities extend

merely to towns and large villages. The almost universal religion is Mahomedanism, the adherents being mainly of the Sunni sect. Paganism is the religion of the Kafirs, a small but interesting tribe living in the mountains east of Kabul. Despite their protestations of piety it cannot be said that the different sects show strict adherence to the Koran and to Sunni precepts. Nevertheless Afghanistan is the most powerful of the Moslem states, and is the foremost seat of the faith in Middle Asia.

Each of the political divisions is under a governor nominated from Kabul, who is the administrator and has charge of the customs and the collection of revenue. These divisions are subdivided into districts with subordinate officials whose title, under the supervision of the governor and the controlling head in the person of the Ameer, represents several functions, fiscal, judicial, and all that pertains to an executive.

The Ameer Ab-dur-Rahman, who reigned from 1880-1901, laid the foundations of this system, while he created



HISTORICAL AND BEAUTIFULLY SITUATED CAPITAL OF AFGHANISTAN

Kabul is picturesquely placed on a high plateau, some 6,000 feet above sea-level at the foot of hills, and is surrounded by a fertile district. Within its walls the scene is less striking; the streets are narrow and tortuous, and the houses, built of bricks and wood, are mostly windowless. The city has numerous historical associations, and played an important rôle in the Afghan wars



Holmes & Co.

1766 18 CAMEL TRAIN AT THE ENTRANCE TO THE KHYBER PASS, ONE OF THE WORLD'S GREATEST STRATEGICAL POSITIONS. The wild and desolate landscape on the eastern Afghan border is unbroken save for the jagged mountain chains which make transit into India so precarious and attended by innumerable dangers. The perils of the Khyber Pass are well known. The bed of a stream, passing between high cliffs, this formidable defile is 33 miles long, and in certain parts only 15 feet wide; and its rugged sides are zealously guarded by untamed Afridi tribesmen, ever ready to attack the unprotected traveller. It was traversed by the British forces in both the Afghan wars during the nineteenth century.



WILD MOUNTAINS WHICH CONTAIN ONE OF THE GATEWAYS OF AFGHANISTAN TO THE PLAINS OF INDIA

It has been said, not without truth, that the military strength of Afghanistan lies chiefly in the rugged and inhospitable nature of the country, and in the absence of good roads, and, indeed, the highways and gateways in the land of the Afghans are almost all bleak and barren gorges. Through them the slowly moving trade caravans make their way, laden with wool, hides, carpets and silks, which are numbered among the principal industries of the country and form the main articles of export. Merchandise is still transported on the backs of loads of beasts of burden, there being few, if any, wheeled carriages proper to the country.

a strong central government with a military organization adequate to maintain his authority. The rule is to all intents an absolute monarchy, but the Ameer is assisted by a council, consisting of sirdars, or high officers of the army and the state, and hereditary nobles, the local chiefs and khans representing the people, with a proportion of mullahs, or priests, who have always played a leading part in the life of the country.

On the accession of Ameer Amanullah the various departments of the governmental machine were reorganized and some new ones created. They now comprise revenue, customs and excise, postal, military, civil, internal affairs, ways and communications, police, finance, trade, and public works. Owing to strong opposition and the inherent dislike of foreign encroachment and enterprise, railways have not been introduced, but the telephone now links up Kabul with various points, and motor transport along the road from India to Kabul may develop in the near future. The army formed by Ab-dur-Rahman was increased and now numbers about 100,000 men equipped with rifles and artillery which are to some extent the products of the country.

The laws are undergoing revision and the model taken is that of the Code Napoléon. Hitherto justice has been entirely administered in accordance with the tenets of Islamic law

and the laws appertaining to the tribes, as well as that expounded by the Ameer, who is the sole court of appeal, but to whom all have access. Intimately connected with the life of the people is the tribal law system as administered by the mullahs.

The sources of revenue are difficult to define; some are in money, but the majority of the collection is in kind. The principal taxes are those levied on land, grazing rights, poll taxes, mining royalties, monopolies, fines and stamp duties on documents.

Prior to 1919 the foreign relations of Afghanistan were controlled by the British Government, but in August of that year a treaty was concluded under which the country was recognized as free and independent, both as regards internal and external affairs. Early in 1921 a mission was despatched from India to Kabul, and after ten months' negotiations an agreement was concluded by which each side agreed to respect the internal and external independence of the other, to recognize existing frontiers, and to reciprocate in the matter of legations at London and Kabul and consular representation at specified points in India and Afghanistan. These arrangements have since been consummated, and further agreements respecting trade, commerce and postal facilities are to be enacted within the near future.

AFGHANISTAN: GEOGRAPHICAL SUMMARY

Natural Divisions. Mountains across the middle, part of the great chain of Old World Mountains—Atlas, Alps, Caucasus, Himalayas. Plateau slopes to north and south of the mountains.

Climate and Vegetation. A hot, rainless desert area, with basins of internal drainage both north and south; the shade of even a telegraph-pole is sought during the glare of the noonday sun. Cf. the Sahara and Arabia. Traces of winter and summer rain regions north and south of the desert.

Water Supply and Rivers. The mountains give rise to the Helmund, Kabul, and Oxus and other streams. In limestone areas there are karst conditions and underground streams (v. Serbia). Irrigation as in Persia is practised by means of underground channels.

Chief Industries. Agriculture, confined to the fertile valleys. Summer harvest: wheat, barley. Autumn harvest: rice, millet, maize. Winter rain region crops: wheat and Mediterranean fruits (peaches, grapes, figs, mulberry) (v. Punjab). Summer rain region crops: rice, maize (v. Burma).

Minerals. In relation to masses of intrusive lava in the north, the mineral sequence copper, silver, lead, etc., is found (v. America, North). These minerals are not worked, small quantities of iron and gold are mined.

Natural Outlets. By the Khyber, Gomul and Kurram passes to India; by the Bolan pass to Baluchistan. By devious mountain routes to Turkistan.

Route Towns. Kabul, Kandahar and Herat.

AFRICA

Physical Features of the Great Continent

by Evans Lewin

Author of "A Geography of Africa," "The Germans and Africa," etc.

THE continent of Africa, although three times the size of Europe, has a coastline about 16,000 miles in length, 4,000 miles less than the European coasts, and there is an absence generally of good harbours. These factors have exerted a profound influence on its social and economic development, and have resulted in a slow evolution towards civilization.

The fact that the longer northern coasts are part of the Mediterranean region and that they are cut off from the rest of the continent by the Sahara led to the development of successive civilizations in the northern areas, one of which, the Egyptian, has been indigenous, while the others, such as the Phœnician and Carthaginian, Roman and Arab, originated and drew their inspiration from the Mediterranean rather than from Africa itself. South Africa remained remote from European civilization until the sea-way to India was discovered by the Portuguese.

Early Geologic Convulsions

The Equator divides the continent almost in half, the northern portion being more than double the size of the southern and extending from west to east some 4,000 miles between Capes Verde and Guardafui. The extreme length from north to south, between Cape Blanc and Cape Agulhas, is about 5,000 miles; but a line drawn between these two points has to the east of it fully two-thirds of the continent and, with the exception of the Moroccan and Algerian area, almost all the highlands and plateau country suitable for European settlement.

Throughout the three earliest of the five main divisions of geological time,

tropical Africa has been part of a great continent which is believed to have extended from Brazil in the west to India and Australia in the east and south. Enormous changes during the fourth geological era led to successive submergences of vast areas; so that while at various epochs great tracts were beneath the sea, such as parts of the Sahara and large areas of East Africa, there was a re-emergence, producing a broad band of highland country extending southwards from the great bend of the Nile to Natal and the Cape of Good Hope.

The Tv Rift Valleys

In this region profound geological changes were accompanied by great volcanic activity, during which the summit of this highland plateau sank and formed the long depression known as the Rift Valleys, the more westerly valley extending from the southern end of Lake Nyasa in a long avenue filled with lakes and waterways as far as the Nile, and the easterly, or Great Rift Valley, breaking off at the northern end of Lake Nyasa and extending as a depressed area, frequently bounded by steep parallel sides, northwards across the Tanganyika Territory and Kenya to Lake Rudolf and thence to the Red Sea.

This great rift can be traced northwards into Palestine, and across the Mediterranean and along the Adriatic to the Alps. Its length is equal to one-sixth of the circumference of the earth. South and west of this great fault, but not in it, lie the gold-bearing areas of the Witwatersrand, the coal areas of the southern Transvaal and Natal, the copper regions of the northern Transvaal, the gold-bearing areas of Southern

Rhodesia, the great copper zone of Katanga in the south of the Belgian Congo, and the gold-fields of the north-eastern portions of the same country.

The Continent in Relief

If we could view Africa from an aeroplane we should see spread before us a vast country depressed in its northern half, where the Sahara is never at a great height above sea level and in some portions is actually below it, rising gradually towards a broad and extensive plateau on the east, crowned with mountain ranges. This plateau extends southwards from the massive and furrowed highlands of Abyssinia, across Kenya Territory and Tanganyika, into Rhodesia and the Transvaal; whence it continues southwards, dropping abruptly to the coasts of Natal. It ends in the south-west in the rampart of Table Mountain.

In the west the great plateau, with breaks, curves round the coasts into the South-West Africa Protectorate; extends into Angola, where it rises as a broad band of territory across which the railway from Lobito Bay to Katanga is being constructed; drops towards the mouth of the Congo; rises again beyond the Congo; extends across Cameroon; and terminates in the rampart of mountains, of no great height, which continue into Northern Nigeria before dropping to the Sahara.

Vast Basin of the Congo River

Within this curved series of highlands, dotted here and there by mountain ranges and occasionally broken by isolated peaks, lies the Congo basin. The depressed area extends northwards across the Nile-Congo divide and across the Sahara to the shores of the Mediterranean in the north and to the Atlantic Ocean in the west. In the far north-west will be seen the Atlas Mountains stretching across Morocco and Algeria to the eastern shores of Tunisia and shutting off the Mediterranean region from the rest of Africa. Our general impression will be that

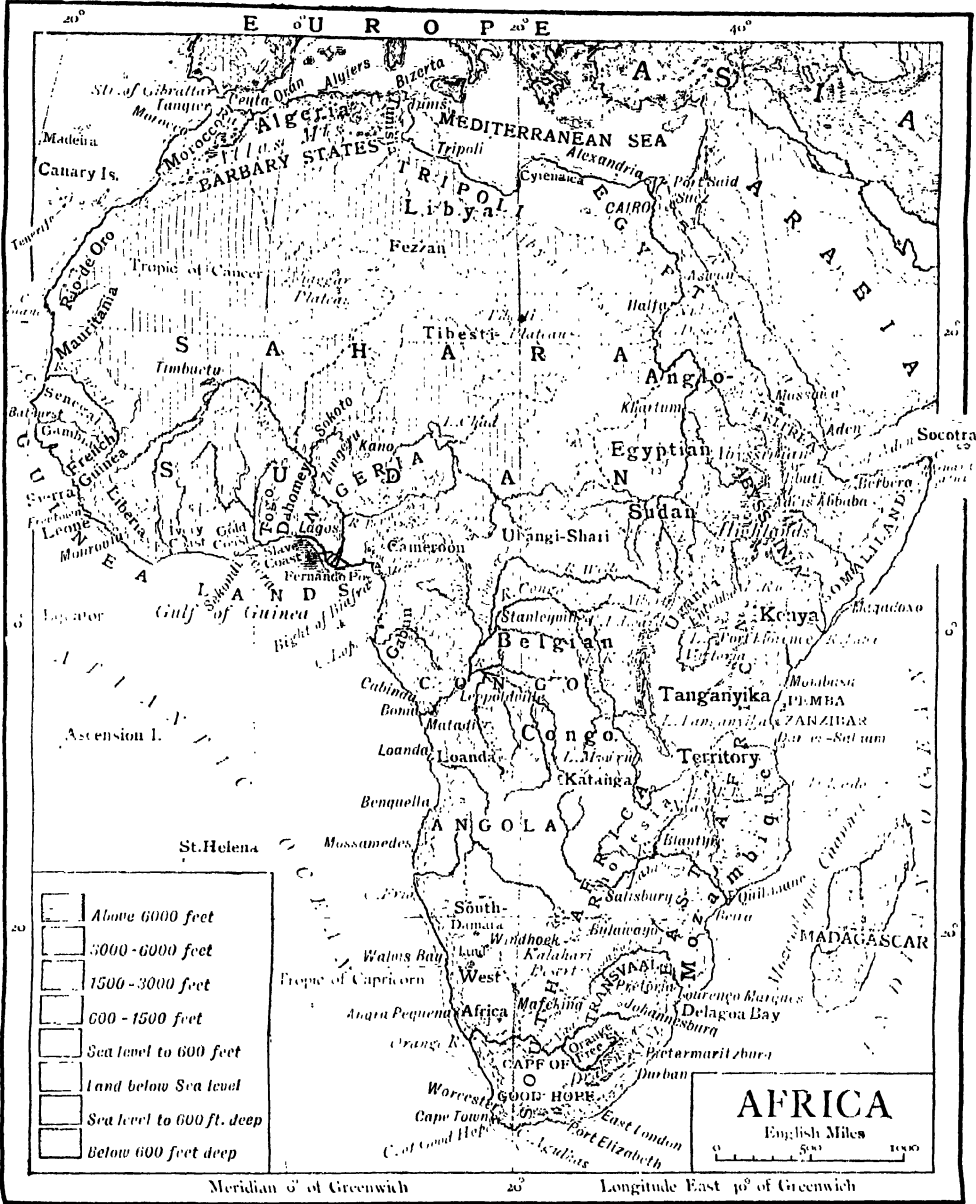
of an inverted saucer, sunk somewhat in the middle, towards which the coastal mountains rise in successive tiers. We shall see that the northern part is generally at a much lower level than the southern and that the general tilt of the land-surface is from south to north, in which direction it might have been expected that all the great rivers would flow. As a matter of fact, with the exception of the Nile, most of the great waterways, such as the Niger and the Congo, although their first course is northwards, eventually turn south. This is due to the fact that they have cut new channels through the coastal mountains.

Mountain Systems and Watersheds

The Atlas Mountains form the north-east corner of the continent and may be considered as an extension of the cordilleras of Spain, the Alps of Switzerland and the Apennines of Italy. The Ahaggar or Hoggar Mountains, rising in the midst of the Sahara, south of Algeria, are not inferior to the Alps in extent, contain peaks of 8,000 feet, and extend towards the south-east into an elevated region known as the Tibesti or Tu highlands, which in past ages has formed a bridge across the desert by which the African fauna has passed from north to south.

The West African mountain system is of little importance except in Futa Jallon, where the mountains, of no great height, form the watershed of the Niger, the Senegal, the Gambia, and numerous other great rivers. Of the mountains of Northern Nigeria and Cameroon, the former rise to a considerable height on the Bauchi plateau, which is the great tin area of Africa, and the latter culminate in the lofty Cameroon peak, 13,746 feet, which dominates the north-western corner of the colony.

The Abyssinian highlands are crowned by lofty peaks, many of which are snow-capped and form the watershed of the Blue Nile. The mountains of the East African plateau include the mighty granitic mass of Ruwenzori, between



RELIEF MAP OF THE CONTINENT OF AFRICA

Lakes Edward and Albert, with Mount Margarita rising 16,790 feet above sea-level, and the volcanic cones of the Mufumbiro or Kirunga Mountains, some of which are active volcanoes, lying between Lakes Kivu and Edward.

With these may be considered, although far distant from the system and not forming part of it, the isolated peaks of Mount Kilima-Njaro, an extinct volcano in the

north-east of the Tanganyika Territory, rising to a height of 19,328 feet; Mount Kenya, another isolated extinct volcanic mass, and Mount Elgon, both in Kenya.

The mountains of the South African plateau commence in the ranges west and east of Lake Nyasa and extend, with numerous breaks, to the great Drakensberg range, which, commencing in the north-west corner of Natal, forms the mountainous

country of Basutoland and extends as various ranges, broken and divided by large inland plateaux, such as the Great and Little Karroo, to the south-west corner of the Cape Province. In addition are the mountain system of the South-west Africa Protectorate and the mountains of the south-western littoral.

Africa's Chain of Lakes

West of the East African plateau lies that unique feature of Central Africa, the great lake system. This forms a great waterway which will be joined together some day by railways. The principal of these lakes are Victoria, an area of fresh water nearly as large as Scotland, from which issues the Nile, which then runs into Lake Albert before continuing its northward course; Lakes Edward and Kivu, the latter the most picturesque lake in Africa; Lake Tanganyika, a deep trough dividing the Tanganyika Territory from the Belgian Congo; and Lake Nyasa. Kivu and Tanganyika form part of the basin of the Congo. Nyasa sends its waters to the Zambezi.

While the mountains named form the great catchment areas, desiccation has rendered enormous areas sterile or desert. The greatest of these arid regions extends southwards from the Atlas Mountains to the great plateau region known as the Sudan, stretching at its widest part from the Atlantic to the Red Sea and extending on its eastern side into the Libyan Desert, west of the Nile, and the Nubian Desert east of that river, which runs as a thread of verdure through the eastern portions of this desert region.

Climate and Habitable Areas

The Sahara is dotted with fertile areas, known as oases, consisting of one or many villages and ranging in size from a few square miles to a territory like Fezzan. In South Africa a similar but much smaller region, the Kalahari Desert, is in process of formation.

The climate is in the main tropical, although temperate regions exist in the

extreme north and in the south, while much of the tropical region is tempered by the fact that on the high plateaux life for Europeans is healthy. It is thus with the greater part of the Union of South Africa; large portions of Rhodesia, especially Southern Rhodesia; the highland regions of east Africa; the high plateau of Angola; while in Abyssinia the climatic conditions would be as favourable for Europeans as they are in Morocco, Algeria and Tunisia.

In many parts of tropical Africa, however, the climate is such that Europeans can only thrive for comparatively short periods without the stimulus of a journey to cooler regions. This is specially true of West Africa, the Congo regions and the coastal areas of East Africa; and although medical science has made great progress in eliminating or rendering less deadly the scourges of malaria, sleeping sickness and other diseases, it is not possible to visualise the period when Europeans can settle permanently in these regions.

Cereals and Other Produce

Africa forms a great storehouse of tropical products needed in the markets of Europe. It furnishes, or is a potential source of, cereals, cattle and sheep, and fruits, and supplies innumerable other products wanted in manufacturing industries, such as cotton and fibres, vegetable oils derived from nuts and kernels (also used as constituents of food), rubber, and products derived from wild animals, such as ivory.

The last and similar products are becoming more and more scarce as civilized man successively invades the haunts of big game and exterminates the indigenous fauna.

The great cereal areas, potential or otherwise, are the Mediterranean regions of north-western Africa, Egypt, the highlands of East Africa, and the plateaux of South Africa and Rhodesia, countries roughly corresponding to the areas possible for white settlement. Cattle and sheep thrive generally in the same areas and are extensively spread

throughout the Cape Province, Orange Free State, Transvaal and Rhodesia in South Africa; Kenya in East Africa; the Sudan regions of West Africa (where, however, they are of the native variety); the Anglo-Egyptian Sudan; and southern Angola.

The deadly tsetse fly is prevalent throughout large areas, and is the host of the parasite which causes sleeping sickness. It swarms in marshy districts and in the neighbouring forests, and there are three species that are fatal to cattle, goats, sheep, horses and dogs. In addition mosquitoes of numerous species, including the malaria-carrying anopheles, are common throughout immense regions.

Health, Temperature and Rainfall

In the bracing highland plateaux of eastern Africa and elsewhere, the European can live for long periods without any serious loss of vitality, but it has yet to be proved whether even on the Kenya highlands, under the direct rays of a tropical sun, Europeans will be able to rear healthy families without a constant influx of fresh blood from more temperate regions. This, of course, does not apply to South Africa generally, nor to the more temperate regions of northern Africa.

Both the northern and southern extremities of the continent are fairly temperate areas, but as Africa is almost bisected by the Equator, by far the greater part experiences a high temperature. The climatic differences, however, are far less extreme than in other continents.

In the more temperate regions the seasons are differentiated by temperature, but in the hot zone rainfall determines them. For this reason the distribution of rainfall is a predominating feature of the climate, the great tropical belt, including the enormous forest areas of West and Central Africa, being in the main the zone of heaviest rainfall.

The vegetation may be divided into six main types. The first is the Mediterranean vegetation, which is

closely allied to the flora of southern Europe and prevails both in northern Africa and in the extreme south-west of South Africa. The second is the desert vegetation, which can be divided into two classes— that which springs up after occasional rains and that which depends in the main upon underground moisture. The latter consists of trees, shrubs and plants with succulent and thorny stems and leaves.

Various Types of Vegetation

The third type is the grass and scrub vegetation, forming an introductory zone to the fourth type, the area of savannah, which extends north, south and east of the Congo basin, and includes the great Sudan region of West Africa and much of the high plateaux of East Africa, South Africa and Angola. In these zones is much land suitable for agriculture either with or without irrigation and, wherever the tsetse fly is absent, for cattle.

The fifth type is the forest vegetation, which extends throughout much of West Africa from the coast of Sierra Leone eastwards in a broad belt to Cameroon, French Equatorial Africa and the Belgian Congo, and thence continues up the slopes of the Ruwenzori range. The forests are broken at intervals by river valleys and savannah.

Forest Regions and Denudation

On the whole, except in the zones of greatest rainfall, Africa cannot be considered a richly forested continent, although apart from the belt mentioned above there are numerous great forests, such as those in Uganda (especially the Toro forest on the west shores of Lake Victoria), Mozambique and Nyasaland.

South Africa itself is poorly timbered, the only important region being the slopes of the Drakensberg Mountains, while the greater part of northern Africa has been denuded of its forests. As trees have disappeared the desert has encroached, so that there are, at the present time, many regions in northern Africa, once well timbered, which are

now undergoing a process of desiccation. The sixth type of vegetation is the alpine flora, found on the higher peaks of East Africa, Abyssinia and Cameroon.

Africa, as a continent, has been subjected to successive waves of invasion by migratory tribes, driving before them the more primitive peoples. The most primitive existing types—the Hottentots, Bushmen and Pygmies—are supposed to be the aboriginal races of southern and central Africa. Apart from these races the peoples may be roughly divided into two great families, those belonging to the Caucasian races (Semites, Hamites and Europeans), and those belonging to the negro and negrito races.

The Hamitic people probably came originally from Europe or Asia, driven southwards during the glacial period, and include the Berbers, the fellâhin or peasants of Egypt, and certain tribes in the Sahara, such as the Tuareg. Subsequent Semitic invaders from Arabia and Western Asia mingled with the Hamitic peoples and negroes. The Semites include the Arabs, who form the aristocratic class in Egypt and throughout north Africa generally.

The negroes, who occupy more than two-thirds of the continent, are roughly divided into those of western Africa, who speak hundreds of diverse languages, and those living south of a line running from Rio del Rey in Cameroon to Lake Albert, known generally as the Bantu race. These people show evidences of a slight

Caucasian strain and speak languages that are closely allied. With the exception of the Hereros of South-west Africa, they are mainly agriculturists, and include some of the finest types of negro races, such as the Zulus of Natal and their off-shoot, the Matabele of Southern Rhodesia.

The introduction of the European element was due mainly to the increasing demand in Europe for the raw materials of commerce, although the earlier settlement of the Dutch in South Africa had been due to a longing to escape from intolerable political and religious conditions quite as much as to a desire for trade and adventure.

Certain great industries, such as those based upon vegetable oils and fats, draw their chief supplies from this continent. In the same way the main source of European supplies of cocoa is the Gold Coast Colony.

In other products Africa is taking an increasingly important part. The cotton of Egypt, the Anglo-Egyptian Sudan and Uganda competes with the best American varieties. The immense mineral riches of many regions, some of which are developed and many of which are still awaiting adequate transport, represent a rich store for European exploitation. In return for these products Africa is importing an ever-increasing quantity of European manufactured goods, and the natives generally are learning the wants as well as the advantages of modern civilization.

AFRICA: GEOGRAPHICAL SUMMARY

Area. 11,500,000 square miles. Population, 180,000,000.

Position. Cairo, 30° N.; Durban, 30° S.; C. Verde, 17° W.; C. Guardafui, 51° E.; Accra and Oran almost on the meridian of Greenwich.

Continental Relations. South of the Sahara by origin and structure similar to the Brazil Highlands, the Deccan plateau of S. India and Australia, all remnants of the ancient continent of Gondwanaland; north-west of the Sahara the Barbary States are by structure, climate and vegetation part of Europe; Africa meets Europe at the desert rim.

Great Rivers. Nile (v. Egypt), Niger (v. Sudan), Congo (v. Congo), Zambezi and Orange (v. South Africa).

Great Lakes. Victoria, Tanganyika, etc. (v. East Africa).

Mountains. Atlas (v. Barbary States), Drakensberg (v. South Africa), Central Volcanoes (v. East Africa).

Coast. Entirely of the Atlantic type, where the regular coast follows the broken edge of a plateau and has no relation to the existing mountain ranges or valleys; hence there are few islands and no festoons of islets parallel with the shore; the continental shelf is narrow and the plateau rises sharply above the abysmal ocean.

ALASKA

A Vast Territory & Its Possibilities

by Vilhjalmur Stefansson

Arctic Explorer and Author of "Hunters of the Great North," etc.

ALASKA is an empire in extent. A straight line drawn between its south eastern and south-western extremities is long enough to reach across the entire map of the United States. In Europe it would stretch from Madrid to Moscow and a little beyond. Geographically, therefore, a brief, complete and accurate description of Alaska is about as difficult as a similar one of Europe. In America it is common to speak of the climate of Europe, but those who live in Europe are more likely to discuss the climate of Sicily or of Holland.

We shall here make a rough division of the climates of Alaska into three groups, corresponding to areas that differ markedly in general outward appearance. The "Panhandle," that extends southward along the west coast to British Columbia, has a rugged topography in common with the entire south coast and extending westward into the Alaska Peninsula and the Aleutian Islands. The rainfall is very heavy, as much as 165 inches per year in certain places, or nearly four times that of New York and more than six times that of London.

Extraordinarily Heavy Snowfalls

Certain parts of this area have a very heavy snowfall, estimated for the Valdez region at from twelve to thirteen feet, while in the mountains it sometimes reaches depths of twenty-five to thirty feet. Of course, this does not mean that the snow is ever so deep as that, but merely that if you measure each snowfall while it is fluffy and fresh, and add up the various measurements of the year, you will get this total.

On or near the sea-coast it is never cold in winter, but the tremendous precipitation, together with the absence of extreme heat in summer due to the cooling ocean breezes, enables this coast to support huge glaciers that come down the valleys into the sea and break into icebergs—never as large as those of the Antarctic or of Greenland, but sufficiently large and numerous to enthral the tourist and confirm him in the general impression that he is approaching an Arctic land.

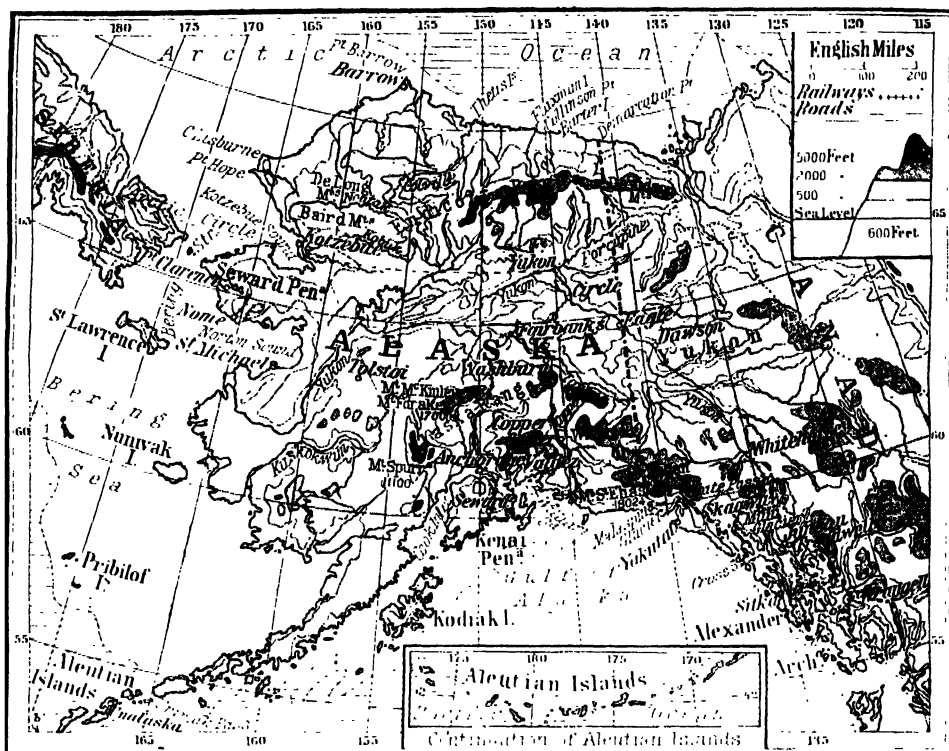
A Land of Mighty Forests

The coast and the slopes far up into the mountains are covered with one of the great forests of the world, similar in general nature to that of British Columbia, although not quite so valuable for lumber. This drawback is not now so commercially important as it was, since wood pulp has become a commodity ranking in value and importance with lumber.

This general region is also rich in minerals. There are few enterprises in the commercial world more famous than the Treadwell Mine and it is only one of many huge commercial undertakings in the development of copper, gold, silver and coal.

The agricultural possibilities of this region are those dictated by a climate where the temperature seldom falls below 0° F. in the winter and seldom rises above 80° F. in the summer, with extremes of 93° F. and 22° F.—a climate not very different from that of Scotland, except in the greater volume of precipitation.

Eventually the most important of the three sections into which we arbitrarily



PHYSICAL FEATURES OF THE TERRITORY OF ALASKA

divide Alaska is the interior. It is chiefly the Yukon basin, the drainage area of the third longest river in North America, and one of the dozen largest rivers in the world. But it includes also the basins of the Kuskokwim (the second largest river in Alaska), the Kobuk and the Noatak. Apart from its northern and southern boundaries in the mountain ranges, that roughly parallel the north and south coasts, this interior area may be described as rugged rather than mountainous, and it is covered in general with a forest composed mainly of evergreens but including quantities of cotton-woods, alders and smaller trees.

The climate is of the type called continental, the winter temperature in many places dropping to extremes of 60° F. and even 70° F. below freezing point, while the summers are correspondingly hot, reaching records as high as 90° F. and 100° F. in the shade both north and south of the Arctic Circle.

Both rainfall and snowfall are comparatively light, corresponding to southern Canada or the interior of Russia.

The third division of Alaska, on the basis of climate and vegetation, is a narrow coastal strip along Bering Sea, widening northward into one of the great prairies of the world along the Arctic coast. This is the treeless section of Alaska, although narrow tongues of forest do stretch into it along some of the rivers with heavy growths of "willows" coming even nearer to the sea. Near some of the rivers that cross the wide northern prairie there are "willows" (alders, willows, etc.) fifteen to twenty-five feet in height and seven or eight inches in diameter, and they occur as much as a hundred miles beyond what is commonly considered to be the tree-line.

The rain and snowfall on the treeless strip along Bering Sea make a total precipitation somewhat heavier than that of the interior, but the Arctic

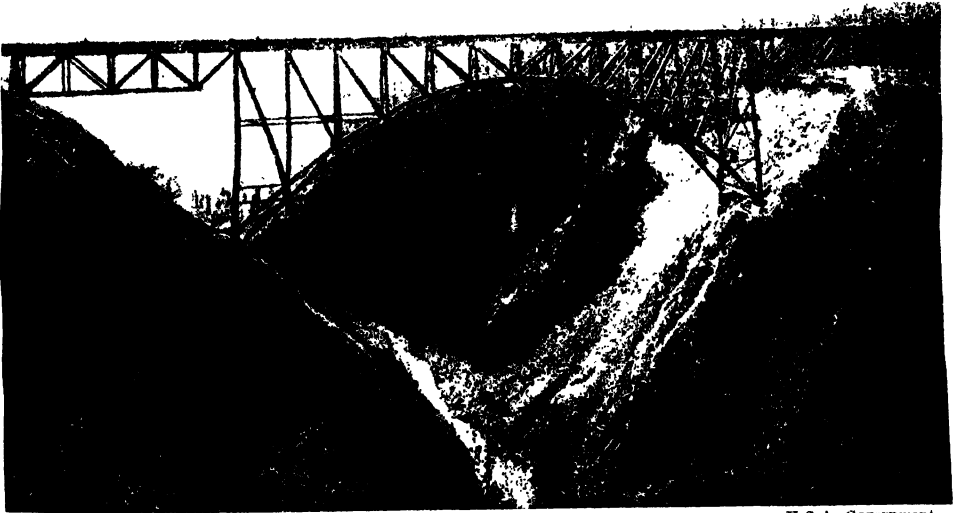
prairie has less. It is probable that if a careful estimate could be made—none has so far been made—it would be found that the snows of winter if melted would give an average of four or five inches of water. The summer rains would give about the same, making a total precipitation of eight or ten inches per year.

In the southern forested belt fogs and thick weather are common at all times of the year. In the great interior clear weather is the rule at all seasons, and especially in winter when there are weeks on end with scarcely a cloud. The Bering coast has a great deal of overcast weather in summer and a good deal in winter also. On the Arctic prairie fogs prevail on the coast from May till October and cloudy weather extends more or less inland. Even the coast is usually clear in winter. Those parts of the Arctic territory that lie between fifty and a hundred and fifty miles from the sea-coast have less cloudy weather than any other part of the world, except similarly located areas in Canada and Siberia and a few of the great desert areas of the world.

The mountains along the south coast of Alaska are high in places. One of the peaks is the highest point on the North American continent—now generally called Mount McKinley, although many authorities contend for one of the two or three native names, among which Denali has the most supporters. This mountain is 20,464 feet, and Mount St. Elias in the Panhandle is 18,024 feet high.

The northern Alaskan mountains seldom rise above ten thousand feet and the ranges visible from the north coast, although very imposing because they spring from low, flat land, are really only between five and eight thousand feet high. On account of the small precipitation in winter and the great summer heat, glaciers are absent from the most northerly mountain range, and are found in the second range only at elevations between five and ten thousand feet.

The soil of Alaska has been tested only in a few places, for it is a frontier land. An official publication of the Alaska College of Agriculture at Fair-



U.S.A. Government

HOW MAN'S INGENUITY OVERCOMES STUPENDOUS DIFFICULTIES

This picturesque cañon, known as Hurricane Gulch, has been spanned by a cleverly constructed railway bridge. Traversing this bridge one catches a glimpse of a graceful U bend of the Sushitna, a large and valuable river flowing through thickly-wooded valleys of the Alaska mountains into Cook's Inlet. Its upper courses are fed by many glaciers and mountain torrents

banks stated in October, 1923, that an acre of Alaska soil would produce three times the quantity of vegetables that an acre would produce in the United States, and would produce them quicker. It may be necessary to make some allowance for enthusiasm in this statement, but it would be a mistake to disregard it, for it is the common testimony all over Alaska that those plants which will grow at all will grow more rapidly and to a larger size than in "temperate" lands. Garden flowers, for instance, that grow knee-high in the central United States will grow to the height of a man's shoulder in certain parts of Alaska. Cabbages grow to a similar gigantic size. It seems that the great heat and twenty-four-hour-a-day sunshine of the Arctic and immediate subarctic produce not only the expected result of more rapid growth but the somewhat surprising result of giantism.

In considering the length of the northern summer it must always be remembered that a reckoning by the days of the calendar produces deceptive results, since the growth of vegetation is measured roughly by the number of

hours of sunlight. The thirty days between June 10 and July 10 on the Arctic Circle are equal to not one but two months of Italian growing time. The calendar months immediately before and after are each equal to about a month and a half. Thus these three calendar months make up about five growing months from the point of view of vegetables.

In the Arctic and subarctic portions of Alaska the diurnal variation of temperature is smaller than in the majority of more southerly countries, since the sun shines continually, leaving no cooling period. At the weather observation station at Fort Yukon, just north of the Arctic Circle, the mean temperature for June, July and August is 50° to 60° F. The maximum summer temperature recorded for Fort Yukon is 100° F. in the shade, and the minimum winter temperature is -76° F., which is nearly if not quite the maximum temperature range for any given place in Alaska.

The chief forest trees of the southern or rainy zone are western hemlock, Sitka spruce, western red cedar and yellow or Alaska cedar. In the interior



TROPHIES OF A WALRUS HUNT IN THE ARCTIC NORTH

The Pacific walrus was formerly found abundantly round Alaska and the north-east coasts of Siberia, but has been exterminated in many districts by relentless hunting. This huge, fin-footed mammal, related to the sea-lion, is distinguished when adult by a pair of long tusks growing from the upper jaw. A full-grown male walrus is 10 to 12 feet in length and may weigh 3,000 lb.



U. S. A. Forest Service

FEEDING HOUSE FOR BLUE FOX ON FOX-BREEDING RANCH

Among the fur-bearing animals of Alaska, moose, fox, beaver and mink are some of the most valuable, and most eagerly sought after by white trappers. Several kinds of foxes are found, including the white Arctic fox and the black, red and blue foxes. The blue species is plentiful in the Aleutians, where it is bred on account of its fur, fox ranches proving very successful commercially.

the main trees are spruce and cottonwood. These are also found along a few of the northward flowing rivers, extending into the Arctic prairie which itself has a vegetation of grasses and sedges in part similar to that found on more southerly prairies as of Montana and Dakota, and in part peculiar to the Arctic. Varieties of bluegrass and timothy are in places conspicuous. The prairie vegetation is seldom knee-high and more often only half that. Contrary to common belief, mosses and lichens do not prevail over flowering plants except in a few restricted localities, chiefly mountainous.

In the beginnings of agriculture so far made in Alaska there have been cultivated with success wheat, oats, barley, rye and most of the north temperate zone garden vegetables. Some of these grow better in the hot interior summers than they do in the longer Scotland-like summers of the south coast.

Alaska is known to the world largely through its mineral wealth. Like the

other riches of Alaska, the minerals were not suspected at the time when the United States through Secretary Seward purchased the territory from Russia in 1867. For about thirty years after that it was known as "Seward's Ice Chest," "Seward's Folly," etc., and was supposed to be for ever incapable of returning to the United States the \$7,200,000 spent in the purchase. It is now reckoned that the gold output alone of the territory up to the close of 1921 had been \$328,104,100. Some of the other minerals are rated in the same Government report as follows: Copper, \$1,34,840,700; silver, \$8,104,000; output of all other mineral products, including tin, marble, gypsum, petroleum, lead, etc., \$7,430,145.

The most interesting recent development in the mineral situation of Alaska is that in 1923 the United States Government, on behalf of the Navy, set aside as an oil reserve the western half of Arctic Alaska from Cape Lisburne to a little beyond Point Barrow. The same area is known to contain large



HARDY ANIMALS OF THE ARCTIC REGIONS: MOTLEY CARIBOU-REINDEER HERD ON A BANK OF THE LOWER YUKON
 The reindeer was introduced into Alaska from Siberia, and with its usual hardihood thrives well in this bleak and mountainous country. It is notable for the fact that both sexes have antlers, which, placed higher on the forehead than those of other deer, are very long and curved. The American type of reindeer is commonly known as the caribou; it is of the same species as the European reindeer, but has been little domesticated, for the Alaskans do not tame their deer like the Lapps of Europe. In the wild state it subsists on lichens and moss among the mountains in winter, and on the grass of the valleys during the summer.



ARRIVAL OF A REINDEER TRAIN IN AN ALASKAN TOWN

In Alaska reindeer are used very little as draught animals; the Alaskans seem to prefer journeying by dog team, but it is believed that with proper training the deer would soon become good travellers, for their feet are broad—a special adaptation for traversing the snow in winter and marshlands in summer. They are used in the south in large numbers to provide food for the natives.

coal deposits, but no restriction was placed upon them by the proclamation of the Government.

Fish is one of the chief industries, and the salmon the chief fish. The so-called sockeye is only one of several kinds of salmon, and in 1918 only about half of these were canned. But the value that year of the portion canned is given at \$23,500,000, showing that this one fish in one year has returned to the United States more than three times what the entire territory cost. Few statements have ever been made with greater assurance than those as to the permanent worthlessness of Alaska, and few now look more ridiculous.

The ordinary European domestic animals are all bred here and there over more than two-thirds of the area of Alaska. That this cultivation is sporadic could be sufficiently explained by the newness of the country. However, it seems likely that the Arctic reindeer of the Old World, imported into Alaska as a domestic animal first in 1892, will supersede the ordinary

domestic animals, even where the latter are already established, for there are many places where cattle can be raised experimentally, but where the stabling and other expenses, incident to a long winter, eat up most or all of the profits.

The reindeer need no barn to shelter them, and they fend for themselves in any weather, depending solely on the native vegetation. Their meat is considered by most people who know it as quite the equal of beef and, since it can be produced almost without cost, a handsome profit can be got where cattle would show a loss.

During the ten years between 1892 and 1902, the United States, according to the official reports, imported 1,280 reindeer from Siberia. These have increased beyond the prophecy of the most enthusiastic of the early advocates, and the Government census of 1922 gives 252,000 animals as then living, although perhaps 110,000 have been butchered. It is estimated by the Department of Agriculture that the grazing areas of northern and western



PRIZED POSSESSIONS FOR SEA AND LAND TRAVEL IN ARCTIC AMERICA

The umiak, like the one-man kayak, is essential to the existence of many shore-dwelling Alaskans. Made of skin, it is stout and capacious and used chiefly as a transport boat. The dogs employed for sledge-drawing are little more than domesticated wolves; they have remarkable powers of endurance, and, when the going is favourable, one dog will draw on an average over 300 lb. for 35 miles in a day.



Ewing Galloway

DOG TEAM RESTING AFTER DELIVERING THE MAIL BAGS AT NOME

In the immense country of Alaska, which extends into the Arctic Circle, dog sledges are constantly used during the long winter months when the inhabitants are almost isolated from the outer world, and the mail is conveyed to the coast by dog trains. The dogs, often half wolf, are extremely powerful, sometimes requiring a good deal of management, and can withstand the severest cold.



Ewing Galloway

SALMON CANNERY IN A BEAUTIFUL SETTING OF SOUTH ALASKA

The salmon industry is the most important of the fishery industries of Alaska. Large numbers of salmon are caught along the coast, as well as in the Yukon, much of the work being carried out by Indians, and all the five species of this fish to be found in Alaskan waters are of commercial value. Canning, mild curing, and pickling are among the principal methods of preserving salmon



Keystone-Burton Holmes

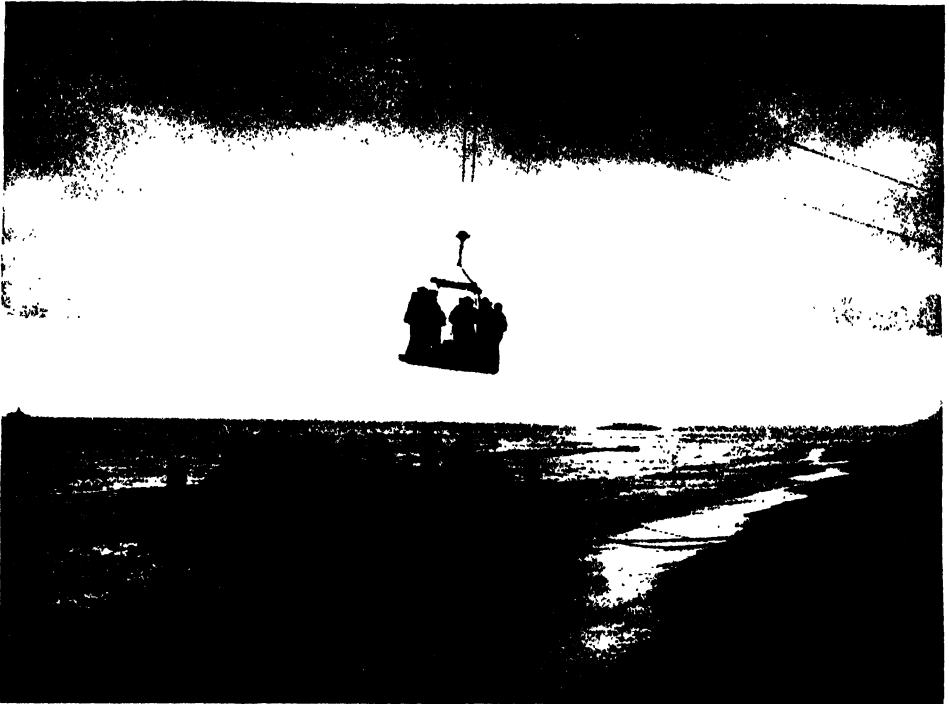
MOONLIGHT ON THE YUKON RIVER IN THE SALMON SEASON

In its more than fifteen hundred miles course from the Yukon district of British Columbia to the Bering Sea at Norton Sound the Yukon river virtually bisects Alaska. Its valley comprises the Upper Yukon, Yukon Flats, the Rampart Region, and the Lower Yukon. The river swarms with salmon, thousands of which are caught in traps like that in the foreground of this photograph

Alaska can support between three and a half and five million head of reindeer, and that this saturation point will be reached between 1935 and 1940, by which time Alaska should, therefore, be one of the great meat exporting countries of the world.

larger number were formerly employed by the whalers at Point Hope and off the Barrow headland.

The collapse of the whaling industry about 1906, consequent on the invention of a commercial substitute for whalebone, threw even these few



KEVIN J. BURTON HOLMES

SPECTACULAR LANDING OF PASSENGERS AT NOME

The city of Nome, on Seward Peninsula, designated as a "squalid Monte Carlo of wood and corrugated iron," stands on the north shore of Norton Sound, and grew from a settlement called Anvil City. Gold was first mined here in 1899. Formerly the coast was inaccessible to ships, and passengers were transported to dry land by means of an aerial cage depending from the long arm of a crane.

The population of Alaska is given for the year 1920 as 55,036, about equally divided between white and native (Indians and Eskimo) populations. The traditional occupation of the natives is hunting and fishing for their own direct support, and the trapping of furs for sale to traders. In southern and south-western Alaska there are, however, a number of Indians employed by white men in fisheries and other industries, on the basis of either wages or profit-sharing, and in some cases both. With greater independence of character, the Eskimo are more generally their own masters. Very few of them have worked for gold miners and a somewhat

employed Eskimo back on their own resources. The high price of furs since about 1908 has enabled them to purchase more imported goods than they can reasonably need. They have no idea of saving from year to year, but will buy something or other for whatever skins they secure. When they have purchased all the clothes, food, ammunition, etc., that they have any conception of wanting, they go on to buy expensive phonographs in mahogany cases, silks and velvets by the bolt, perfumeries, and the like.

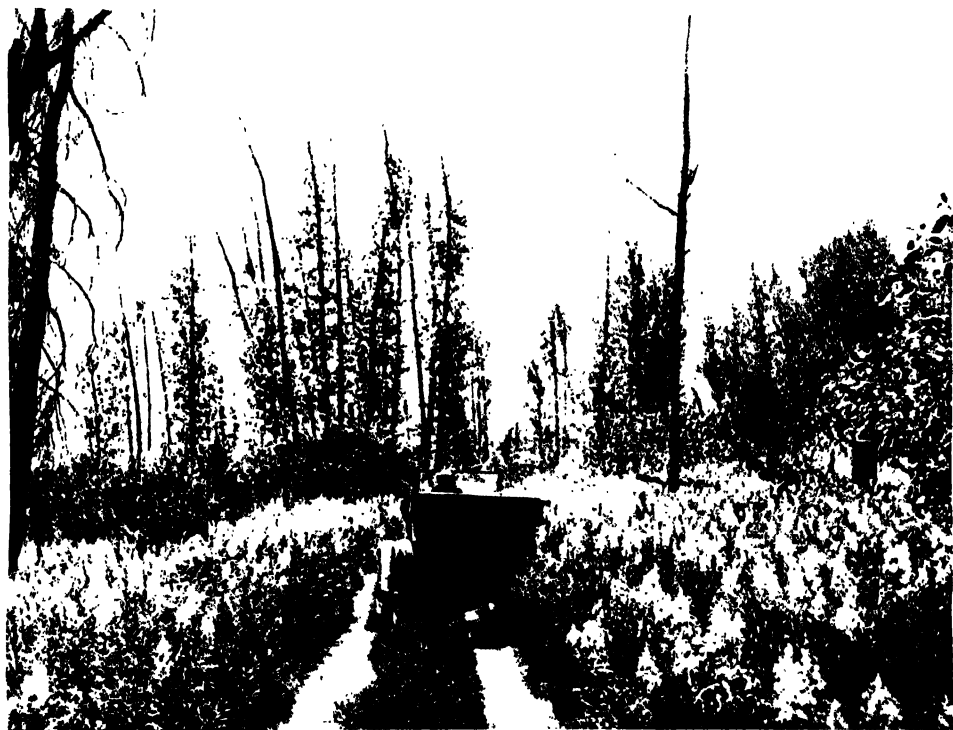
The reindeer herds of north-western and northern Alaska are about the only considerable accumulations of property



Ewing Galloway

JUNEAU, ALASKA'S CAPITAL, SET AMID MOUNTAINS AND FJORDS

Since 1906 Juneau, a principal seaport of Alaska, has been the capital of the territory. A well-paved, well lighted town of about 3,500 inhabitants, it has manufacturing and fishing interests, but owes its prosperity mainly to the gold mines in the neighbourhood. It is situated in south-east Alaska, on the shore of Gastineau Channel, amid Alpine scenery characteristic of the Panhandle coastline



U.S.A. Government

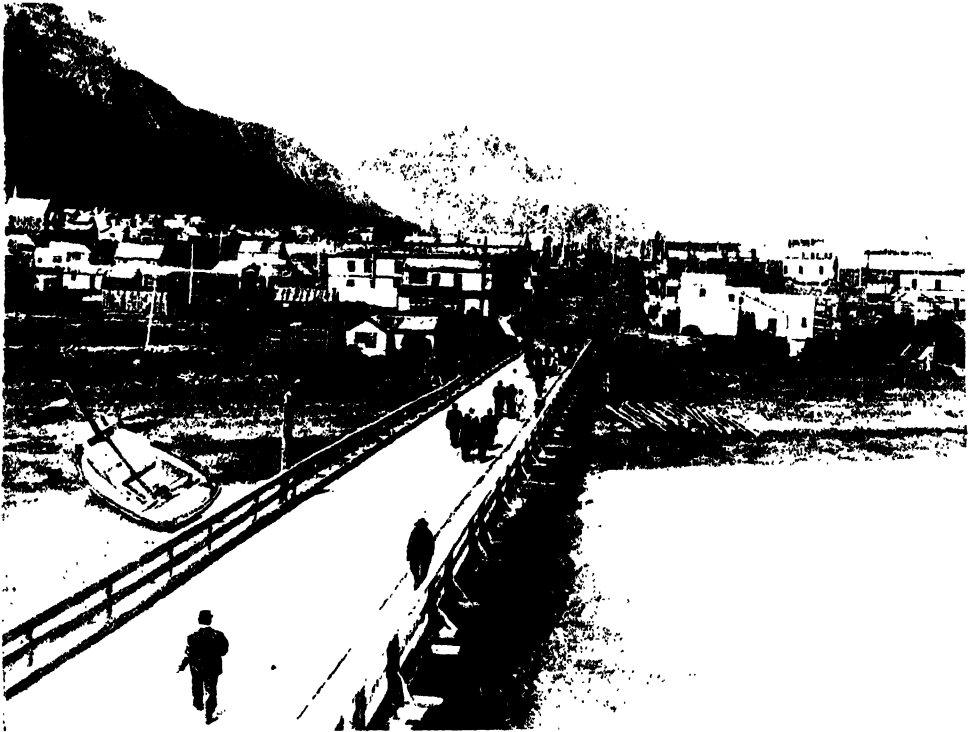
SUMMER IN ARCTIC AMERICA: FLOWER-FRINGED HIGHWAY OF ALASKA

Alaska is a country of contrasts. On its mountains snow lies all the year round and snow storms are experienced on its high peaks in the height of the summer season. But in the lower lands the long hours of warm sunshine produce a tangle of rich vegetation; tall grasses spring up in the meadows, flowers abound, and in some parts numerous berries may be had for the gathering



ISLAND SURVIVALS OF ALASKA'S SUBMERGED MOUNTAINS

Wrangell, on Wrangell Island at the mouth of the Stikine river, has direct steamship communication with Seattle in Washington State. Salmon canneries and a hatchery employ many of the inhabitants. These islands of the Alexander Archipelago are the peaks of a submerged mountain system, and glacial action is shown in the scarred sides of the steeps that rise from the deep fiords



FLOURISHING TOWN OF SEWARD ON THE KENAI PENINSULA

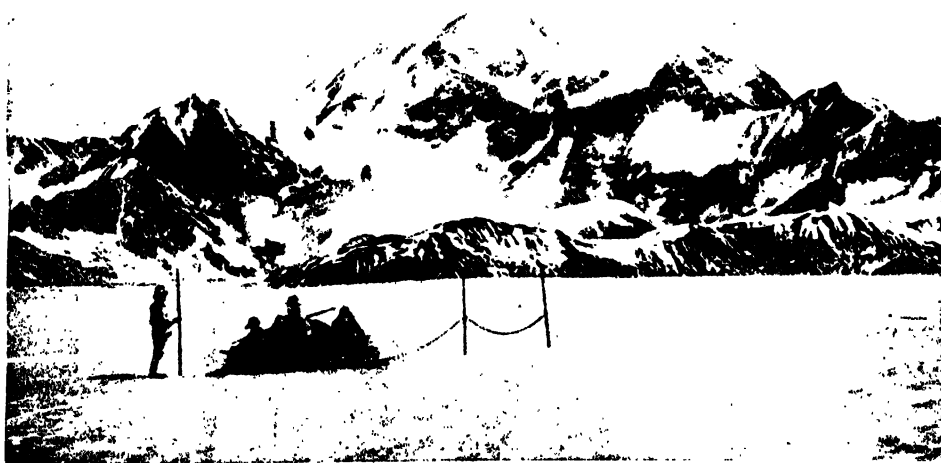
When first purchased by America in 1867, Alaska was derisively nicknamed "Uncle Sam's Ice-box." It was believed that Russia had made a good bargain. Since then, Alaska has paid for itself many times over; its mineral resources are boundless, and towns like Seward, in a rich mining area, spring up like mushrooms, and daily increase in population and prosperity



U.S.A. Forest Service

MOUNT WRANGELL'S LOFTY PEAKS CROWNED WITH FIRE AND ICE

Inset between the Chuzach and the Nutzotin mountains, forks of the St. Elias range, is a group of volcanic peaks comprehensively called the Wrangell Mountains. The group reaches its highest altitude of 17,140 feet in Blackburn Peak, and other lofty cones are Mount Sanford, 16,200 feet; and Wrangell Peak, 14,005 feet. Viewed from afar this volcanic mass is impressively majestic.



U.S.A. Forest Service

SKIRTING THE SOUTHERN FACE OF SNOW-CLAD MOUNT ST. ELIAS

Mount St. Elias, a volcanic mountain, is the dominant peak of the St. Elias range, one of the four ranges that make up the Pacific Mountain system in the south of Alaska. Towering to an altitude of 18,024 feet, its snow-clad summit marks the international boundary between Alaska and Canada, and on its southern declivity facing the sea is the vast Malaspina glacier covering 1,200 square miles.



R. B. Dance

MONARCH OF THE MOUNTAINS OF NORTH AMERICA: MOUNT MCKINLEY IN THE ALASKAN RANGE

With an altitude of 20,300 feet, as determined by the United States Geological Survey, Mount McKinley is the loftiest peak in the continent of North America. An immense mass compact of granite and glaciers, it is the monarch of the Alaskan Range. On the Sushitna-Kuskokwim divide, and about 130 miles north of Cook Inlet, whence it is clearly visible, it rises sheer from marshy country on the west side and long baffled explorers and mountaineers. Extended exploration of the range began in 1902 and the first ascent to the summit of Mount McKinley itself was accomplished in 1913.



Ewing Galloway

PART OF THE WHITE PASS BEARING THE SINISTER SOBRIQUET OF DEAD HORSE GULCH, SEEN FROM THE RAILWAY Skagway, the Alaskan seaport, has direct access to the Canadian goldfields of Klondike, which, discovered in 1896, lie not far over the boundary, for it is the terminus of the famous railway running through the White Pass to Whitehorse on the Yukon. During the first rush of the early fortune-seekers, the White Pass took a terrible toll of human life. The would-be diggers streaming out of Skagway with their horses and belongings suffered untold hardships; numberless horses succumbed along the perilous path which became known as "Dead Horse Trail." On one mile of its most difficult course 3,500 dead horses were lying

in the hands of natives. Some own several thousand, valued nominally at twenty-five dollars per head. During the last few years white men have entered the reindeer business and one company owns more than fifty thousand animals. The native shrewdness of the Eskimo and a measure of preferential encouragement given them by the Government will doubtless enable them to keep a considerable share of the reindeer industry indefinitely.

At the beginning of the present century gold mining was the chief occupation of most of the white men in Alaska, or else direct service to the gold miners. More recently other minerals have increased in importance, as also have the fisheries. Lumbering is attaining, and market gardening has attained already, considerable proportions, the vegetables being shipped south to supply Seattle and other large Pacific

cities. Thus the division of labour among white men in Alaska is fast approaching a correspondence with that of Americans resident in the United States.

Apart from the railways, winter travel in the interior of Alaska is exclusively by sleigh. Dogs were for long the only draught animals, but horses have been introduced in the mining communities and mails and passengers are now carried to the Yukon and elsewhere by horse stage. Reindeer are beginning to be used also in the west and north, although the dogs still keep their popularity in many places, even where reindeer are available.

Summer travel is mainly by water. The north coast of Alaska east of Point Barrow is accessible to trading ships most years between the latter part of July and the middle of September. Between Point Barrow and Bering Strait the season is a month or two



FETISH SUPERSTITION CARVEN WONDERFULLY ON TREE TRUNKS

The Indians of Alaska, though very uncleanly and indolent in their ways, have more than one interesting art. The making of ornamental canoes is an ancient hobby, but in their totem-poles -- trees carved into extraordinarily weird and fantastic shapes -- their imaginative genius is given full expression. These ceremonial posts are sometimes over 20 feet in height

longer. The important mining town of Nome on the Bering Sea is open to ships about five months in the year. The navigation season of the Yukon river in 1923 began in May and closed November 16, the longest open season on record and a month in excess of the average. The ports of southern Alaska and the Aleutian Islands are open all the year.

There are three main ways of reaching Alaska. One is to go by American steamer from Seattle, or Canadian steamer from Vancouver, to Skagway. From there the White Pass and Yukon Railway takes you over the mountains to Whitehorse on the Upper Yukon, where a small river steamer carries you to Dawson and a larger steamer thence to the mouth of the Yukon river. If there are a number of passengers on the steamer, a wireless will bring a small boat ninety miles from Nome to meet the steamer at St. Michael. The second way is to take an American steamer from Seattle to Seward or Anchorage. From there the United States Railway carries you north to Fairbanks. If you desire to proceed farther you take a river steamer down the Tanana to the Yukon and then go by steamer either up or down the river.

The third way is to take an American passenger steamer from Seattle by way of Unimak Pass to Nome. You then have the choice of returning by that steamer or of proceeding up the Yukon. At the junction of the Tanana with the Yukon you have the further option of going north up the Tanana or ascending the Yukon east and south to Dawson and Whitehorse.

A time of great commercial activity in the interior of Alaska was between the years 1898 and 1910. Steamers almost comparable to those of the Mississippi were then going up and down the Yukon river every few days. The chief commodity was gold, and the steady rise in the value of nearly all other things was equivalent to a drop in the value of gold. Mining became more and more precarious and trade

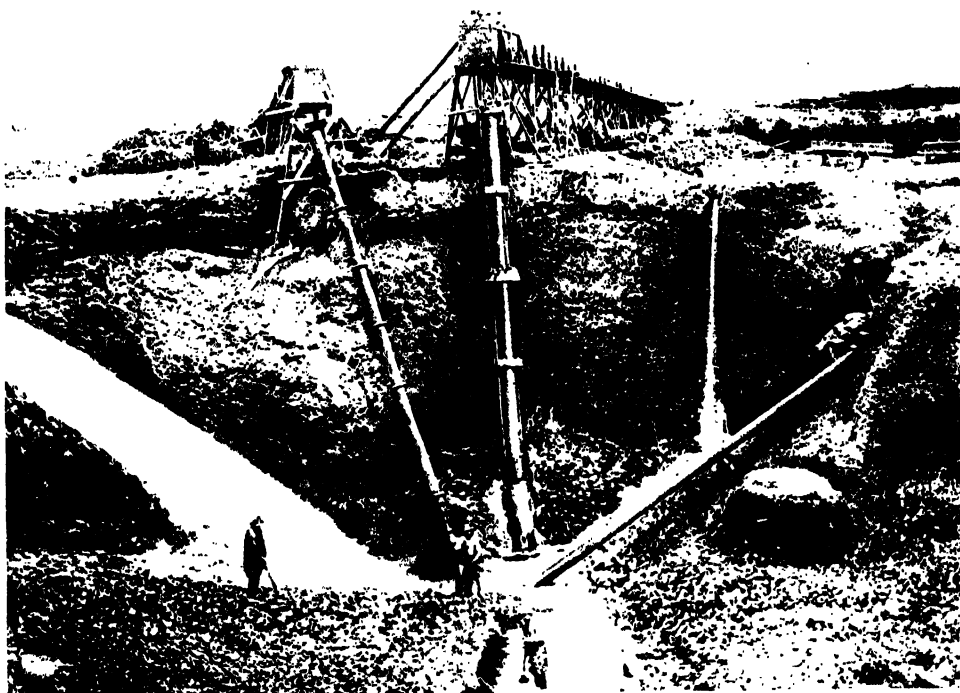


FAMILY TREE OF INDIAN ORIGIN

Carvings of totemic animals and birds, generally of a highly grotesque workmanship, are still to be seen in some Alaskan districts where Indians dwell, as in this street

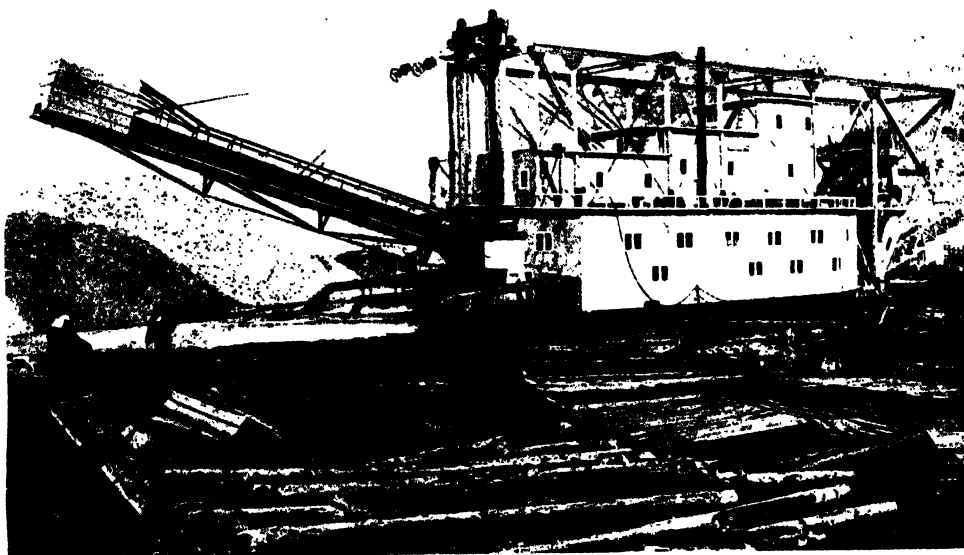
gradually dwindled in consequence. Then came the paralysing rise of prices caused by the Great War and gold dropped to half its pre-war purchasing power. From the consequent collapse Alaska is only just beginning to recover. One of the results is that the intending traveller must inquire carefully in advance as to how the steamers run, for they are no longer numerous or regular. The building of the Government railroad has also had a bad effect on the river navigation. By taking the mail it has removed one of the chief incentives for boats to ply the full length of the river.

All towns south of the Yukon, as well as Nome, are connected with the outside world either by telegraph or wireless and mail service is regular, if somewhat slow according to modern ideas. In summer it would take about the same length of time for an



REMARKABLE METHOD OF RECOVERING GOLD FROM ITS ROCKY BED

Gold has brought much fame to Alaska in recent years, and increased its white population by tens of thousands. This illustration shows the hydraulic gold-mining system in operation at Glacier Creek. The water is served from the main and directed through nozzles on to the gold-bearing rock. The material washed out is carried off in a channel, the rich dirt being allowed to settle at various points.



Ewing Galloway

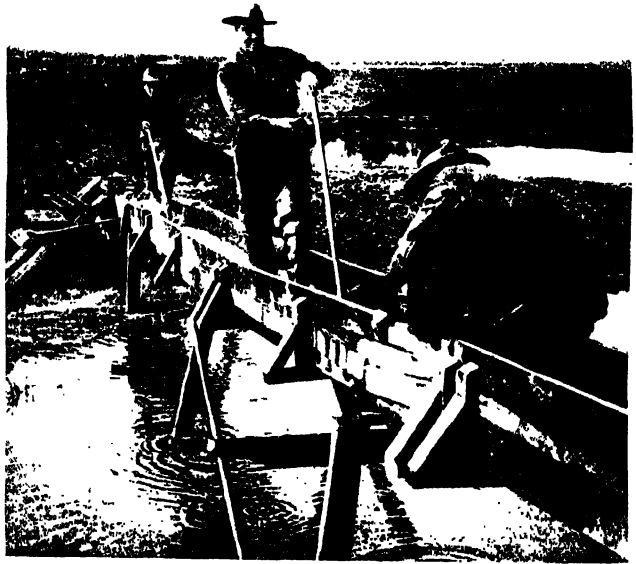
DREDGER WORKING OVER SUBMERGED GOLD-BEARING STRATA

Dazzling discoveries of gold in the nineties drew many a fortune-seeker to perilous adventure in Alaska. The primitive methods then employed in obtaining the precious metal have been superseded by more elaborate machinery, and dredging is now practised on a large scale. The dredgers are similar in almost all essentials to those used in harbours for removing accumulations of sand or mud.

English letter to reach Nome or Melbourne Australia; in winter the time from England to Nome would be about double that to Australia. A letter to Barrow, if it made just the right connexion, would take about three times as long as from England to Australia. There are, however, only four mails a year to Barrow, one in the summer and three by sleigh in winter.

In its heyday Nome is said to have had a population of about 40,000 people in summer with perhaps 10,000 spending the winter. The permanent population is now between two and three thousand. Juneau, the capital, has a population of about three thousand, and Fairbanks, on the Tanana river, has about one thousand inhabitants. In appearance the Alaska towns are much like towns of the same size in the United States, mainly frame buildings with occasional structures of brick or stone. There are similar public buildings, schools, churches, post offices, city halls, court houses, motion picture theatres, etc. The streets are lighted by electricity, and houses are commonly steam-heated.

The natural health conditions in Alaska are usually considered about



PRIMITIVE GOLD-MINING IN ALASKA

Many ambitious men working on their own account still sift the river sands by means of primitive appliances. Washing alluvial deposits in the old-fashioned manner is no easy task, but man makes light of labour in his haste to acquire wealth

the best in the world. The general hardiness of the type of men and women who seek the frontier tends to the same result. Although the summers are very hot in the interior disease germs are fewer and fever conditions less likely to prevail than in most other countries. Mosquitoes, sandflies and other insect pests are perhaps on the average as bad as in any area of the same size on the earth's surface, but these are annoying rather than dangerous. The mosquitoes may suck blood but they do not carry the germs of malaria or yellow fever.

ALASKA: GEOGRAPHICAL SUMMARY

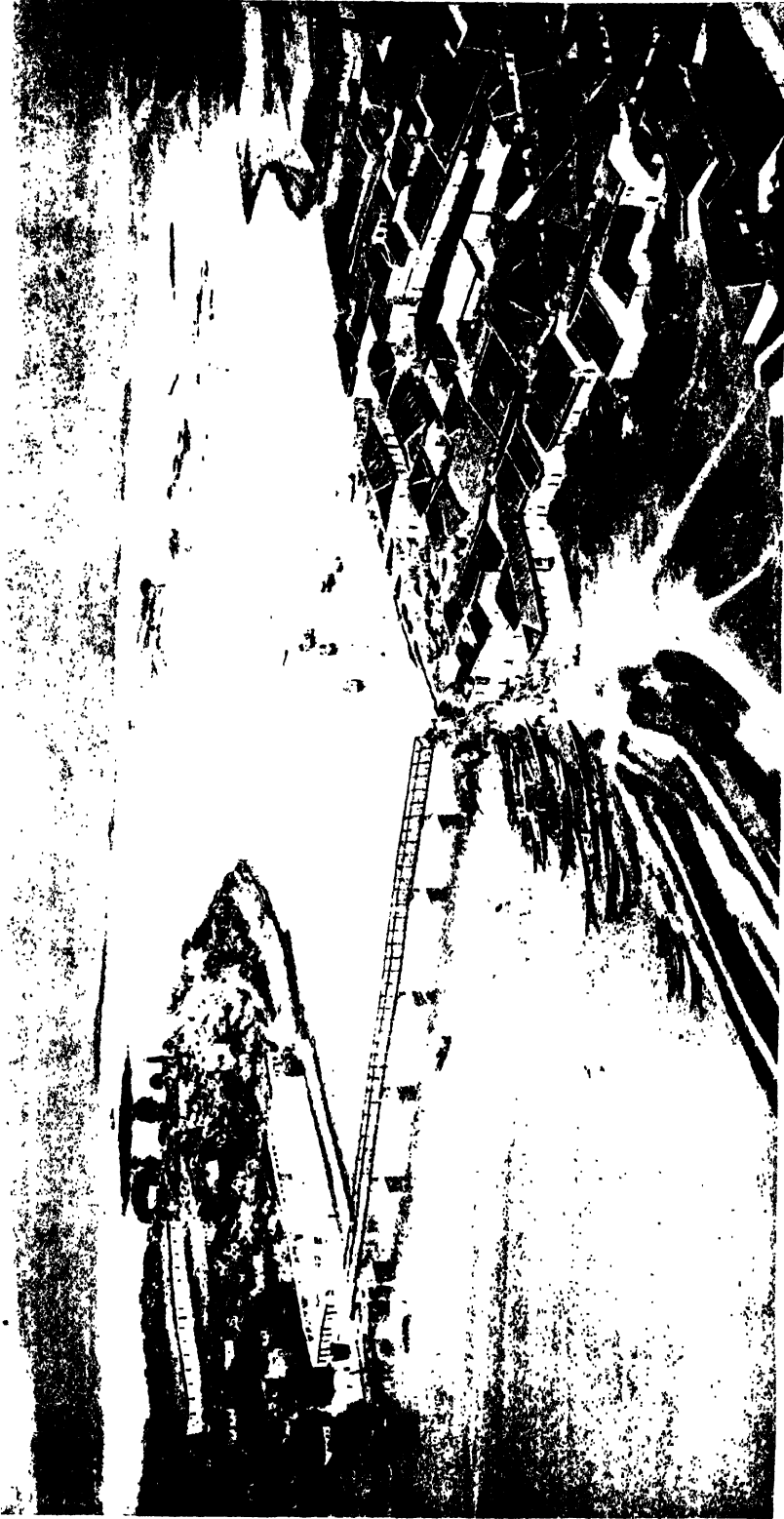
Natural Divisions. Northern extremity of the North American Cordillera. Northern lowlands, part of the lowlands on the edge of the Arctic basin (v. Arctic Lands).

Climate and Vegetation. South coast like British Columbia a region of warm, wet winters and cool summers with heavy precipitation on the coast. Cf. climate of Scotland. Interior continental climate of great extremes, long hot summer days and short intensely cold winter days, with scanty precipitation. North coast insular Arctic climate (v. Arctic Lands). Natural vegetation is forest wherever

summer warmth permits growth and rainfall or river water supply is plentiful.

Chief industries. Trapping, fishing, lumbering, and mining. Reindeer herding as a contribution to the world's meat supply. Minerals are typical of the Cordillera (v. America, North).

Outlook. Gold and other mineral resources are being exhausted. Lumbering, and salmon fishing are capable of extension. Reindeer herding is full of promise. The country will develop exports in response to demands from the United States in exchange for foodstuffs, cereals, etc.



H. C. Woods

WHERE THE BROAD BOYANA WINDS THROUGH SCUTARI FROM LAKE TO ADRIATIC

Scutari is situated near the Montenegrin frontier on the Boyana river, close to where that stream enters Lake Scutari, which is itself divided by the frontier. The city is not to be confused with the other, and far larger, Scutari which stands on the Asiatic side of the Bosphorus, opposite Constantinople. The Albanian town whose Albanian name is Skodra is, commercially, about the most important in the country, and from it tobacco, hides, maize and sumac—a shrub whose leaves are used for tanning and dyeing—are exported

ALBANIA

Mountain Province of the Eastern Adriatic

by Henry Baerlein

Author of "Under the Acroceraunian Mountains," "A Difficult Frontier," etc.

SOLEMNLy to sit down and describe Albania is no simple task, seeing that the "sons of the eagle" (ShkËpëtar or ShqËyptart), as the inhabitants of that peculiar country call themselves, have only in the majority of cases a very vague idea of the meaning of the word ShkËpënia or ShqËypenia. We may be told by enthusiastic tourists that this people is by far the most united and patriotic of the Balkans, or of the world; and it is a fact that when it came, in 1920, to the forcible turning out of the Italians a great number of aged warriors and of beardless youths took part in the proceeding. They inquired very little as to the rate of payment, but they had a pretty shrewd idea that the persons of their prisoners would, with or without torture, yield an abundance of good things--and so would the dead.

Tribal Montagus and Capulets

More precious even than gold—which, in the form of napoleons, is the standard currency, though Albania is devoid of banks—would be the rifles and munitions, since one must remember that an Albanian, whose wardrobe consists of a pair of close-fitting white trousers, a jacket, and one shirt, may be the proud owner of twenty rifles. These are mostly used by him and his friends for the destruction of other Albanians. In the Great War this interesting people fought with equal gusto on both sides.

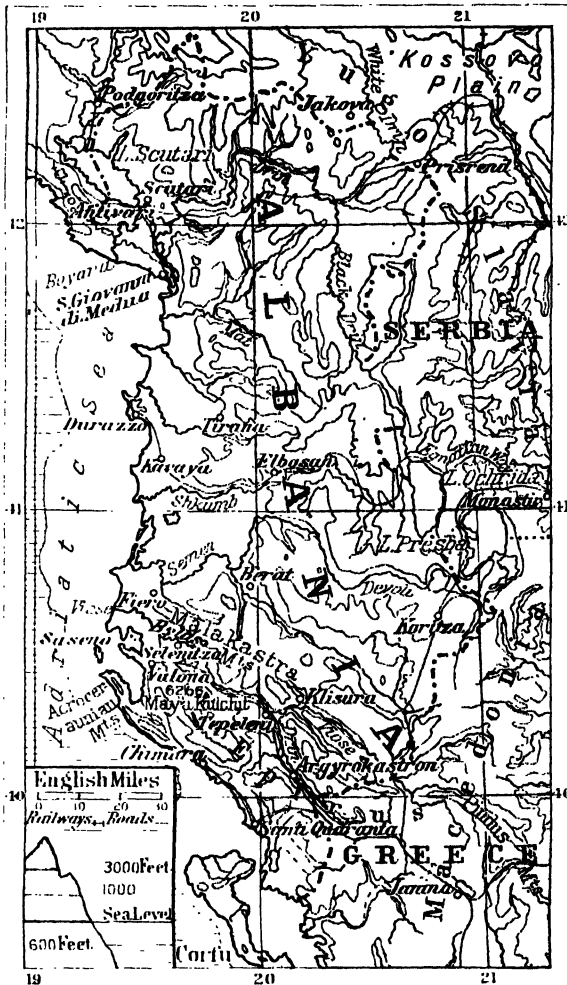
What we call Albania contains, I suppose, slightly more than the population of Liverpool spread over an area some 4,000 square miles larger than that of Wales; and even so there is not room enough for them. When you are going from the territory of one tribe

to that of another you may have to cross a fordless torrent, as their chronic Montagus and Capulets have smashed the ford. If you request the mayor of any place to lead you to the next he will, perhaps, go half the journey, and, although you threaten him with death, refuse to go another inch, because he is in blood-feud with the neighbouring village, and he knows that he would never more return from it. Thus will the reader understand that Albania--which the Powers created just before the Great War, with Prince William of Wied as its Mpret, or ruler—is not one's ideal of a unit.

Albania's Natural Frontier

Physically this oblong-shaped province of the eastern Adriatic has for many leagues along the north and east a chain of bare and lofty mountains; in the south, to which we shall afterwards refer, the Acroceraunian Mountains are a mere incident, whereas they should certainly be the frontier. But if Albania was intended to be a separate country, the natives of it, although they are the most ancient people of the Balkans, took no steps of their own accord. They appeared to be quite satisfied with the old Turkish regime, which collected the taxes in a very half-hearted way, and, with regard to military service, offered to these ruthless mountaineers the proud distinction of joining the Imperial Guard at Constantinople.

You may say that, as the Albanians undoubtedly are quite different from the other races of the Balkans, they are entitled as much as any to have their own independent country; but the first condition of independence is



THE JAGGED CONTOURS OF ALBANIA

that the people themselves should desire it, and as yet the Albanians have been too much preoccupied with inter-tribal conflicts as well as with the everlasting animosity between Moslem, Roman Catholic and Greek-Orthodox. Perhaps in time this people will become as national as their ardent friends abroad and some of their own big men assert; but, on the other hand, they may relinquish the independence that was thrust upon them. The north may come into the Yugo-Slav and the south into the Greek sphere of influence, to the joy and relief of a large number of the Albanians, who, by the way, have not yet made up their mind whether

they will be a republic or a monarchy.

Since the flight of William of Wied in 1914—he had never ventured more than a few miles from Durazzo, his dilapidated and marshy capital—no successor has been invited to come and live in the mournful, draughty old building which is still surrounded with the remains of William's barbed-wire entanglements. But the application of a multi-millionaire would be considered. At present the capital is the village of Tirana, a ramshackle place with fewer amenities than Scutari or Koritza, but lying in a much more central and also in a Moslem district. Unlike Durazzo, it cannot be attacked by a foreign fleet. There the cabinet of Moslem landowners (a Christian or two being added for the sake of appearance) has above it a rather impotent Regency of four worthies—two Moslems, one Roman Catholic and one Greek-Orthodox—so that the world may perceive how full are the Albanians of toleration and brotherly love.

Nevertheless, the country does for the moment figure on the map. Let us, therefore, briefly describe it. We have spoken of Albania's mountains. They are very formidable, and they render all communications difficult. Here and there among the mountains of the north and east one comes across an isolated village, where the priest will often be the only person who can read and write. As the country bends down to the Adriatic there are portions of comparative fertility; but it is characteristic of the Albanians that a shepherd with a lanky sheep or two will have a gun to keep off robbers. Near the coast the land is often marshy; it is said that

efforts will be made to remedy this state of things. And one of the most pressing needs is a harbour at which a ship can come up to the quay.

Nowadays, at the dreary little malarial port of San Giovanni di Medua, from where there is a road to Scutari; at the picturesquely walled Durazzo; at Valona (Avlona), full of empty structures left by the Italians; and at Santi Quaranta, a straggling, disconsolate village most of which was the Sultan Abdul Hamid's private property, and was bestowed by him on one of his wives—everywhere it is necessary for a merchant-vessel to tranship her cargo into barges at some distance from the land. (Opposite Valona, by the bye, is the precipitous little island of Saseno, which is now the sole spot of Albania in Italian occupation. It is interesting to note that although Saseno is far from

the Ionian Islands it used to be reckoned as a member of that group, and as such was a British possession until 1863; but no British official resided there.) Down to this desolate coast there wander a few rivers, but they are of very little navigable use. Here, again, we have to listen to the "music of the future," for a scheme exists to drain the Boyana (or Bojana) which would then convert Lake Scutari into a magnificent harbour, to the common advantage of the Albanians and the Yugo-Slavs.

In certain parts, especially around Koritza and in the valley to the south of Argyrokastru, there are fields of good arable soil which the predominantly Greek or Albanian-Orthodox population of those districts cultivate to the best advantage. Around Moslem Elbasan, a place of blank walls and winding alleys, there is likewise a fruitful tract of



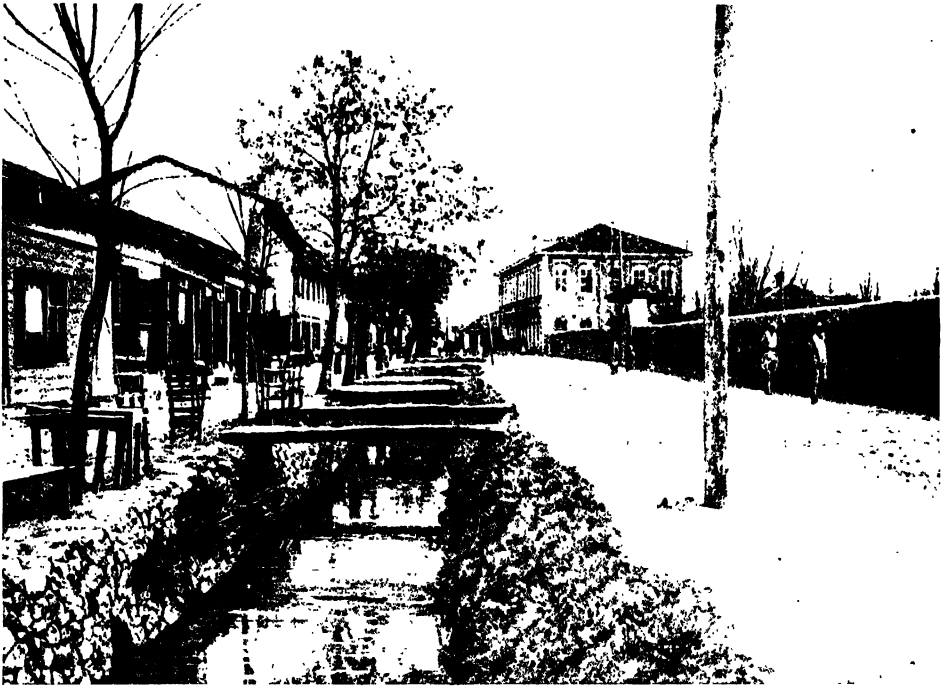
SCUTARI'S WALLS AND TOWERS ALONG THE SHORES OF THE LAKE

Lake Scutari is unquestionably one of the most beautiful in Europe. Its south-eastern end, upon which stands the town of Scutari, is about twelve miles distant from the Adriatic coast, while its northern and larger half lies within Montenegro. The lake is, in general, shallow, though near the south-west shore are deep depressions. It measures 27 miles in length and 10 in breadth.

country in which maize is grown ; and the farmers being hand-in-glove with the government, there is—at any rate there was not long ago—a heavy import tax on flour, so that many starving peasants were obliged to pay large prices for the inferior maize-bread. Apart from this cultivated land, the general aspect of Albania is dreary and bleak. It is as certain that there is oil below the ground as that there are olive-trees

neighbours can be seen, for example, in the Jakova (Djakovica) region, which has for the last few years been included in Yugo-Slavia. Most of the inhabitants are Albanians, and so little thought have they hitherto devoted to the improvement of their stock that a cow grazing in this district has the appearance of a large and emaciated St. Bernard dog.

Under the tuition of the Yugo-Slavs



PRIMITIVE METHODS OF SANITATION IN ALBANIAN SCUTARI

Scutari, which has spread beyond its old borders, is crowded unhealthily in the centre, where narrow streets twist in a tortuous maze of shops, houses, and bazaars reminiscent of the days of the Turkish regime. Even in the more modern part of the town, as in the rue Ernest Renan shown here, drainage is primitive and the tree-lined open sewer runs parallel to the houses

R. N. A.

above it, but as yet there is no proper exploitation. And one hears, too, constant and most persistent rumours of all manner of untapped mineral wealth. But what, you may ask, do the natives do for a living ?

Though Albania lies upon the Adriatic, very few of its people devote themselves to fishing. And the soil in many parts affords the peasant an exiguous livelihood. He scratches it with prehistoric implements or lives upon his miserable goats and sheep. The difference between the cattle of the Albanian and that of his

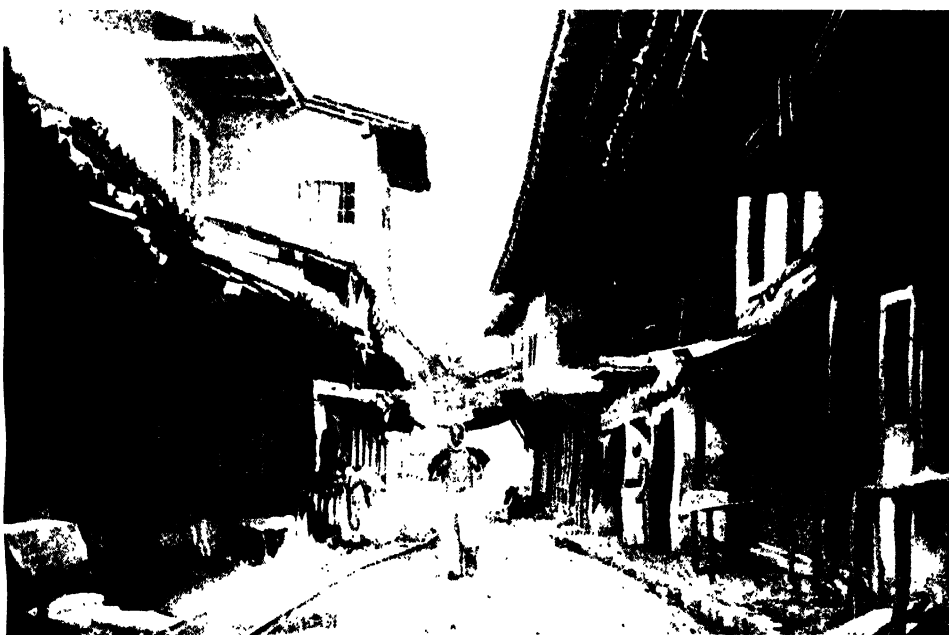
this state of things will be remedied, for there will no longer be the danger that a handsome beast will be appropriated by the head brigand of the district. And where the peasant, as in the plain to the south of Argyrokastru, tills a more gracious soil, he is always more or less at the mercy of the authorities, who are either Moslem or else Christian adherents of the tyrannical Moslem regime. All three religions, as we have mentioned, are represented in the government ; but that this is only to impress the world may be discerned



Albert

HILLSIDE BUILDINGS IN AN ALBANIAN VILLAGE

Civilization halts among the remote villages of this mountainous country. The houses are often built largely of wood, of which there is usually an abundance near at hand, although, under Turkish administration, the forests suffered great denudation. Every dwelling has a tumble-down appearance. The inhabitants have scanty acquaintance with comfort and appear content to live without it.



Gregorius Brown

CITY OF WINDING STREETS AND ORIENTAL BAZAARS

One of the winding streets in Scutari, picturesque but with ramshackle tenements, the timbers of many of which are solid enough but have become so rickety with age as to seem in almost imminent peril of collapse. Turkish rule favoured lethargy, and the natives are not conspicuously energetic in the work of repair.



COFFEE AND CIGARETTES AT A CAFÉ ON A SUMMER MORNING IN SCUTARI

E. N. A.

As the vicinity of the coast is reached the presence of the marshes that fringe it makes itself felt. There is often an enervating feeling about the air while there is usually plenty of time and opportunity for lounging, so far as the rickety rush-bottomed chairs on the broken pavement will permit. The most popular drink, distilled from plums, and forming a mild and not unappealing spirit, is called raki, while immense quantities of coffee are consumed with innumerable cigarettes. Sticky cakes of inordinate sweetness are great favourites



CITADEL OF SCUTARI ON ITS CRAG OVERLOOKING THE BOYANA

Many buildings in Scutari have an Oriental appearance, which is enhanced by the various mosques that rise above the surrounding roofs. But the finest pieces of architecture in the town are to be found in the Roman Catholic Cathedral and this ancient Venetian castle, a sentinel in stone, that watches above the city. To the left is seen one of the light-draught boats that ply on the river

from the fact that in the army the Christian troops are not provided with a chaplain or permitted to observe their fast days; they have to fast in Ram-dan with the Mahomedans.

What is manufactured in Albania is for home consumption. A woman will be capable of making her husband's rude clothing of thick white cloth with black braid. On his feet he wears leather sandals. Wool and leather are among the scanty articles of export, while the list of imports, mainly from Italy, embodies practically all the requirements of Albanian civilization. Those among the Albanians who regard themselves as the most civilized are the men who have been in the United States, where they have usually managed to learn English while working in a factory or selling fruit in the open air. Equipped with the knowledge they have thus gained they return to their native country and are made into gendarmes or civilian officials. Sometimes they take a hand in schoolmastering; but frequently this job is given to a Moslem who has stayed at home, and, perhaps,

been a stevedore at one of the quays or an itinerant seller of Turkish delight. He is usually just able to sign his name.

The condition of the schools is, in fact, alarming; and especially is this the case in southern Albania, that portion beyond the Acroceraunian Mountains. Until it became incorporated in Albania - against the urgent advice of the British and French missions who had inspected the country - the schools had been Greek, and now the great majority of these schools have been closed, and it is even prohibited to let a Greek-speaking schoolmaster give private lessons at your house. The result is that numerous boys who were studying for the medical or legal professions are now wandering aimlessly about the roads. Others have been sent by their parents to Corfu, and others, in Koritza, are attending a French lycée, where for a year they have to learn the language before they can proceed with their education.

It may be asked why the Albanians of this, the most advanced part of the country, had Greek schools. The reason



E. N. A.

STREET LIFE IN DURAZZO: WHITE WALLS REFLECT THE GLARE OF THE SUN ON PRACTICED IDLERS

Up in the mountains where the air is bracing and the temperature either cold or mildly warm there is not so much to tempt the Albanian to sit about. As a rule, the mountaineers are considerably more animated and energetic than the townfolk. Although Albanians are essentially a mountain people they tend to grow, if more lethargic, at least less excitable and more orderly once they have settled down to town life. The temperature at the lower altitudes, and especially near the sea, is often high and the atmosphere damp and sultry.

is not so much because they are members of the Greek-Orthodox Church as because the Albanian language is in far too elementary a condition. An Albanian youth cannot say to a girl that he loves her, only that he wants her.

The road between Argyrokastru and Janina, in Greece, would be looked upon in other countries as very lonely. In Albania it is one of the chief thoroughfares, being a section of that great highway constructed by the Turks from Santi Quaranta to Koritza. This road

Meanwhile, as in the south, all communication is by road. The merchants of Scutari would undoubtedly welcome this line, as would the Klementi, the Kastrati, and all the other mountain tribes who are now compelled to fetch their supplies on mule-back from Scutari. But the government in Tirana fears that the northern province would come too much into the Yugo-Slav sphere of influence. The communications on the Adriatic are in the hands chiefly of Italian and Greek shipping companies,



PALACE AND QUAY OF DURAZZO BUILT AMONG MARSHES AND HILLS

Backed by ruins of a Byzantine capital whose walls can be seen in the background, Durazzo is a little port about sixty miles south of Scutari and faces the Bay of Durazzo, which is formed by a small and rounded peninsula whose furthest point is Cape Poli. The harbour, if cared for, would be a fine one, but has somewhat silted up. There is a small export trade in fruit, oil and timber

is now traversed by a few public automobiles, most of them having been abandoned there by the Italian army. In the whole of Albania there is no railway, and when the Italians, who occupied Albania during the Great War, offered to construct one from Valona that would link up Albania with Turkey, via Salonica, this proposal was received in a very tepid fashion, as it was thought among the Albanians that Italy would not wish to bear the whole expense. Another railway that has been talked of is that along the Drin, from Yugo-Slavia to the Adriatic. But the Yugo-Slavs are not likely to build this costly line unless they are given control of the strip of country through which it would run.

Albania being destitute of such things. To what degree one can be destitute of creature comforts in Europe is nowhere, I imagine, more flagrant than in the average Albanian village, where the houses are primitive in the extreme and utterly devoid of sanitation. (There is said to be a solitary water-closet in Albania; at least, I learn this from an Austrian explorer.) The most characteristic type of architecture is the so-called "kula," which resembles an Irish tower. The windows are high above the ground, and, once inside, the inhabitants are relatively safe from attack. Yet in the Albanian landscape one often sees a "kula" standing ruinous and half demolished.

As for the towns, by far the most presentable are Scutari and Koritza, each with roughly 30,000 inhabitants. The former, crowned with an antique fortress and the burial place of medieval Montenegrin princes, would be a worthy capital if it were not situated at the

as it always has been, in Greek. The churches were seized by Moslem gendarmerie and delivered over to the control of the minority which asks for an Albanian Mass.

Koritza has more fine private houses than any other place in Albania; they



Aiferi

ROAD WITH COBBLED SIDES THAT RUNS THROUGH KAVAYA

Northern Albania is broken with the ramifications of a southerly extension of the Dinaric Alps whose sides are here clothed with dense forests. In the south are the ranges of the Acroceraunian and Chimara Mountains. Only in the centre is there much open country where the wide and fertile plain of Kavaya spreads itself towards the sea. This road is raised to provide a dry surface

extreme north. Aforetime it was the residence of the Turkish vali, and now it is the seat of the Roman Catholic metropolitan who, with his flock, is rather overawed by the Moslem. Scutari is a dusty, extensive place, full of curving little roads and noteworthy for its Oriental bazaars.

Away in the distant south is Koritza, where half the inhabitants are Greek-Orthodox; but here, too, the Moslem prevails. In spite of international agreements both the large churches have been taken from the four-fifths majority which desires to have the Mass sung,

are often of two storeys, but the upper part is usually uninhabited except for the week of Easter, when carpets, furniture, and so forth are taken out of their receptacles and the family entertains its friends. Though Koritza is half Christian, it is very Oriental. At a concert, for instance, I noticed that only two ladies were present and one of them was French.

When Edward Lear, some seventy years ago, penetrated to Chimara on a sketching tour, he found an untamed people dwelling in the most romantic surroundings. Over the Chimariote



CRUMBLING HOUSES IN THE HIGH STREET AT VALONA

Alberici

Valona, the chief of Albanian sea-ports, lies about a mile and a half from the open sea upon the eastern shore of the bay of the same name. This inlet is some ten miles long and five miles wide, and at its entrance is the island of Sasseno and the mountainous headland of Glossa. Thus there is convenient and safe anchorage off the town.



Alberici

AMONG THE WOODED CLIFFS THAT EMBRACE VALONA PORT

Girdled with woods which contain many oak trees and nearly surrounded by mountains, Valona has, even in the winter-time, a mild climate, and, save on the tops of the higher hills, snow seldom falls. The acorns from the neighbouring woods are used for tanning purposes, and there is also trade in tortoiseshell and wool. The town has a population of over six thousand.

villages the Turk had scarcely the shadow of authority. And the natives were as hospitable to travellers as they still are in most parts of the country. The Italians constructed a grand motor-road from Chimara along the coast to Santi Quaranta, but very soon it fell into disrepair, and is now, in many places, like the old Spanish high-roads of Mexico, on which your horse does not trust himself to advance until he has tested the security of each boulder.

and dwells in towns is he phlegmatic. Otherwise, he is alert enough.

Living in remote valleys, poverty stricken, in blood-feud with various neighbours - what can be expected of this people? A woman who has a grudge against a man will step outside her hut, and, lifting up a jar of milk to the rising sun, she will curse him. If he sees her doing it he will shoot the jar out of her hand, so that the curse becomes of no avail.



IN A LAND WHERE PUBLIC WORKS ARE LITTLE CARED FOR

This scene in a market square where the oxen can smell the water they cannot reach and in which their boy driver sits beside the broken pump is an epitome of Albanian life. The pump was used till it broke down, and it was no common business to repair it. And the oxen are small and stunted, since for years they have had no trouble to improve the stock.

Perhaps the Italian and Austrian engineers whom the Albanian government has acquired will turn their attention to this road. It would then become a second Route de la Corniche. But how long will it take to mollify the temper of the population?

Wiry and tall, burned by the sun, the peasant strides over his rocky country. In his girdle and on his back are several weapons, while very likely he is carrying in his hand a large cotton umbrella. Only when he waxes rich

Perhaps the present condition of the people can best be shown by glancing at three of their priests. The Roman Catholic tribesmen of the north will not allow a priest to live among them if he has not a moustache, and if he has been over to Italy he is obliged to stay in Scutari until he can present himself to his wild flock. When he is there he does not shirk his part in mundane matters. With his rifle he will assist in keeping off either the emissaries of the government, if need



WATCH-PARTY AMONG ALBANIA'S BROKEN CRAGS

Albania's ruthless mountaineers match their hard and rugged countryside. Here an armed party watches for some far believed to be penetrating their own particular valley. A report echoing among the rocks will be all that tells of yet another victim of the blood-feud. This photograph well shows how the scanty vegetation manages to cling precariously to the unkindly soil

or any unwelcome neighbours. The Greek-Orthodox priests of the south are not always persons of culture, although their bishops and several of the village priests have been trained in

wedding and the burial services by heart. How did he become a priest? Well, he allowed his hair to grow, and one day the people started saying, "See, there goes a priest!"

A typical example of the Moslem hodja (priest) is the one who, two or three years ago, declared that his profession was not going to keep him from carrying out the obligations of the blood-feud. He therefore killed one of his parishioners with whose family his own was at the time in feud. The relatives wished to have the funeral conducted by another priest. But when this came to the ears of the assassin he let it be known that if any other priest came from his village and usurped a duty that was not his, earning also a fee that was not rightly his, then the offended parish priest and his friends would be waiting with their guns behind a wall. The matter was settled by means of a three-days'



COUNTRY HOUSE BUILT FOR DEFENCE

Albania has ever been a land of brigands, and these and the inconveniences of the vendetta or family feud have made it necessary that remote houses among the desolate hills shall resemble fortresses. Every window is barred

Greece, and have become as learned, almost, as they look. But in a village near Koritza I met a time-worn ecclesiastic who said that in his day there were not many schools. He could scarcely read, but he had learned the

"besa" (truce), during which period the murderer repaired to the house of his victim, buried him and took part in the subsequent carousing.

A wholesale "besa" is wanted all over Albania.

ALBANIA: GEOGRAPHICAL SUMMARY

Natural Division. Part of the great Old World Mountain System between the Dinaric Alps and the Balkan Mountains. A narrow, coastal sill backed by the mountains, cf. the Riviera.

Chief Industries. Home production of foodstuffs and clothing materials for strictly local use. Primitive cultivation of the soil and the herding of beasts of poor physique.

Communications and Route Centres. On the basis of the Roman Via Egnatia, a road from Durazzo via the Shkumli valley to Macedonia. During the War a light

railway followed this route from Durazzo to Elbasan. Motor road from Durazzo to Tirana with an extension to Scutari. From Elbasan the road to Berat and Epirus was widened for motor traffic by the Austrians. Coast road Valona to Argyrokastru and Santi Quaranta. Road from Valona to Koritza and Salonica. The lack of effective, local administration and an inert central authority cause these roads to deteriorate rapidly; stretches of excellent surface connect patches which resemble nothing so much as a boulder-strewn hillside. Bridges and culverts seldom repaired.



REMARKABLE BRIDGE THAT SPANS THE OSUM AT BERAT

H. C. Woods

Berat is in the south of the country, and about thirty miles north east and inland from Valona. It stands on the River Osum not far from its confluence with the Devoli, the two streams then flowing to the sea under the name of Sementi. A Greek archbishop has his seat here, and there is an export trade in olives, oil, wine, fruit, and grain.



ALBANIAN POTTERY KILN NEAR BERAT

H. C. Woods

One of the reasons for the slow progress of manufacturing on any large scale has always been the rudely efficient ability of the Albanians to produce, home-made, the essentials of life. Every Albanian wife can make clothes for the entire family. Above is seen a local brick-kiln with the kindling stacked at the side. It is noticeable that every pot is of a standard and unvarying shape.



COBBLED STREETS THAT WAKE THE ECHOES IN METZ

E. N. A.

South west of the cathedral and the big business streets of Metz, the Place St. Louis or St. Ludwig's Platz is the heart of the old town. On its cobbled expanse the barrows rattle and the market plies with little hint of the fortifications without that made Metz in German days one of the strongest garrison towns in Europe. Preserved fruit- and wine form the staple industries, but tanning is also carried on.



NOTRE DAME: CHIEF GLORY OF OLD METZ

Rising high with its airy fretted pinnacles and flying buttresses, like the spirit of the Middle Ages epitomised in stone, the cathedral of Metz stands, a stately queen above the tortuous streets of old tile-roofed houses. Architecturally it belongs to the Reims school, and it dates from the late 12th century; the original windows are resplendent with choice stained glass of the 13th and 14th centuries.

ALSACE-LORRAINE

Linked Border Lands of the Vosges

by Percy Allen

Author of "Impressions of Provence," etc.

ALSAce and Lorraine the Elsass-Lothringen of the Germans are border lands now definitely linked together in European thought as two of the most fiercely contested regions known to history. But their historical, political and ethnological connexion all follow upon the fact that physical nature has placed them side by side and given them a common backbone - the Vosges.

On either side of that mountain chain the two ancient duchies lie, Alsace comprising their eastern heights and the fertile plain extending between them and the river Rhine, while Lorraine, as we understand the term to-day, is the undulating country that slopes westward from the Vosges towards Champagne and the Paris basin.

Command of Important Trade Routes

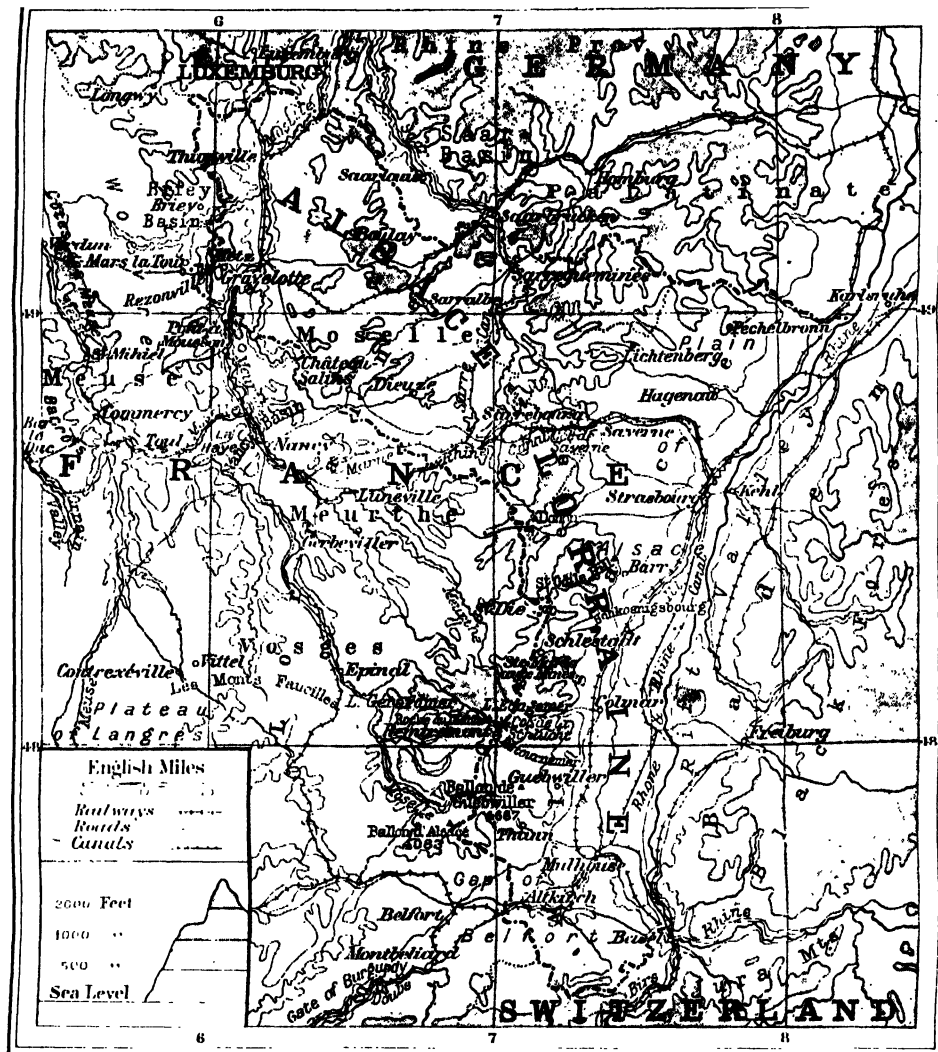
Alsace, then, is a unit geographically well defined, whereas, on all sides but the east, the boundaries of Lorraine have been politically as much as geographically determined. The original kingdom of Lorraine (*Regnum Lotharii*), created by the Treaty of Verdun in A.D. 843, was a vast country situate between the realms of the eastern and western Franks, extending from the North Sea down into Italy and including the whole of Alsace; but the kingdom and the great medieval duchy following thereupon dwindled until, from the eleventh century onwards, Lorraine has meant only Upper Lorraine, or Lorraine Mosellane, the bulk of it represented by the modern departments of Vosges, Meurthe and Moselle, and Meuse. The name Alsace, on the contrary, has never been applied to a

geographical area much larger than is connoted by that word to-day.

The two provinces together are but small, the distance west to east as the crow flies from Bar-le-Duc to the Rhine near Strasbourg being no more than about 120 miles and from north to south Sarreguemines to Belfort - only about 100 miles; but their situation as border countries, faced on the north by Luxemburg and the Rhine Province, on the east by Germany (Baden) and south and west by Switzerland and France thus assuring to their possessors command of important trade routes between central, southern and western Europe has made them throughout history the object and battle ground of national cupidities. Alternately occupied or invaded by raiders or immigrants from adjoining countries, both provinces have shared in an unenviable publicity that lands less dramatically placed have been fortunate enough to escape.

The Glory of the Vosges

Physically, or geographically, Alsace-Lorraine divides itself into three quite distinct districts mountain, plateau and plain; the mountains being the Vosges, the plain that narrow strip running north and south between the Vosges and the Rhine, known as the Plain of Alsace, and the plateau that higher, undulating country to the west, which forms the greater part of Lorraine. The Vosges are the natural glory of both provinces; and the world has few fairer sights to offer than the panorama of Alsace seen on a stormy October day from the hill of legendary Saint Odile. The iridescent rainbows,



PHYSICAL MAP OF ALSACE-LORRAINE

intersecting one another and mingling their colours, arch themselves across the deep, green, fir-clad gulfs and purple mountain chasms, while the streaming storm-clouds scatter their largesse of rain down upon the warm green plain below, dotted with towns and villages, over which the sunlight and shadow, racing, lead the eye across the Rhine river, to the huge mass of the Black Forest darkling against the sky.

Those mountains, the geologists tell us, were in bygone ages one with the Vosges, but in the course of geological evolution a succession of

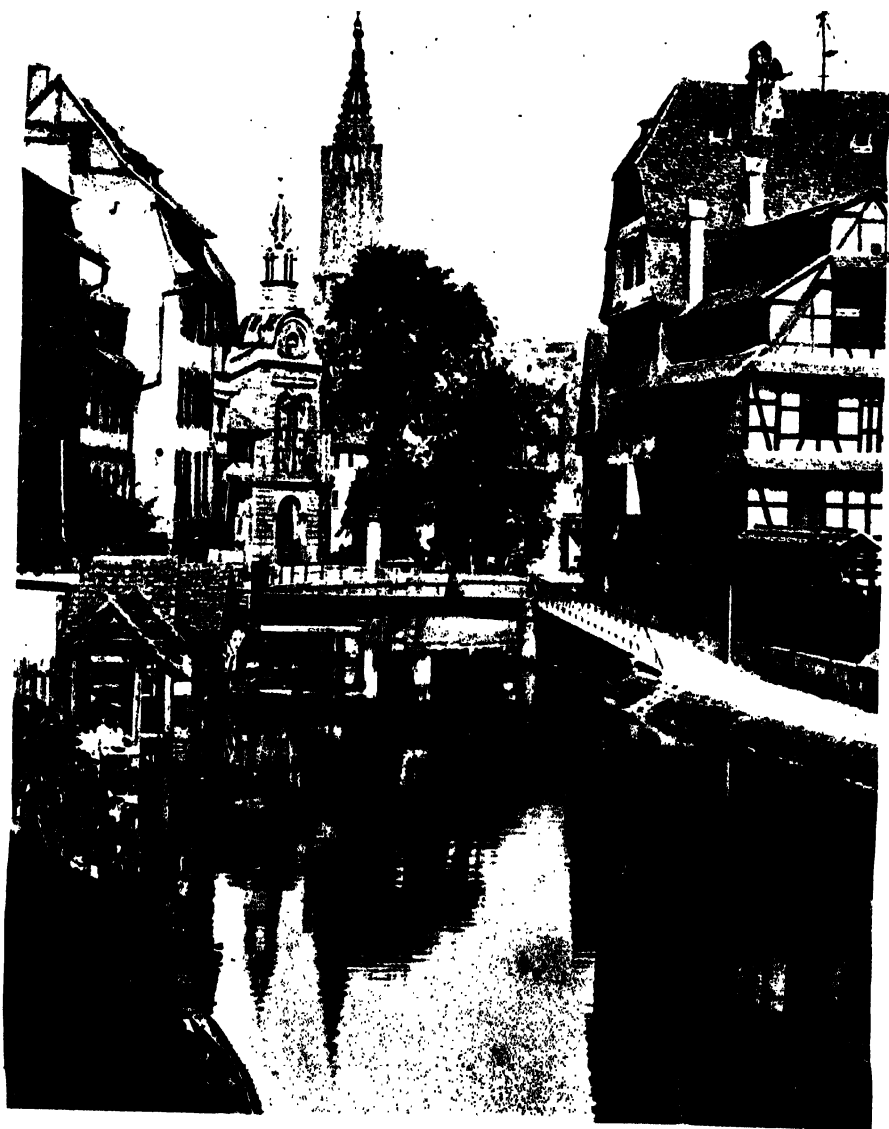
cataclysms caused the vault between them gradually to collapse and settle, until, little by little, was formed the Plain of Alsace, through which, ultimately, the river Rhine made its way.

To-day the Vosges, as huge masses of eruptive rock rising originally to some 10,000 feet, and now worn down by countless centuries of wind, ice, and water to a modest 3,000 feet or so, stand alone, some with rounded desolate tops, bare or fir-capped, some rising in sharper peaks, deceptively known as "ballons," or balloons, which they are not, and others crowned, like the



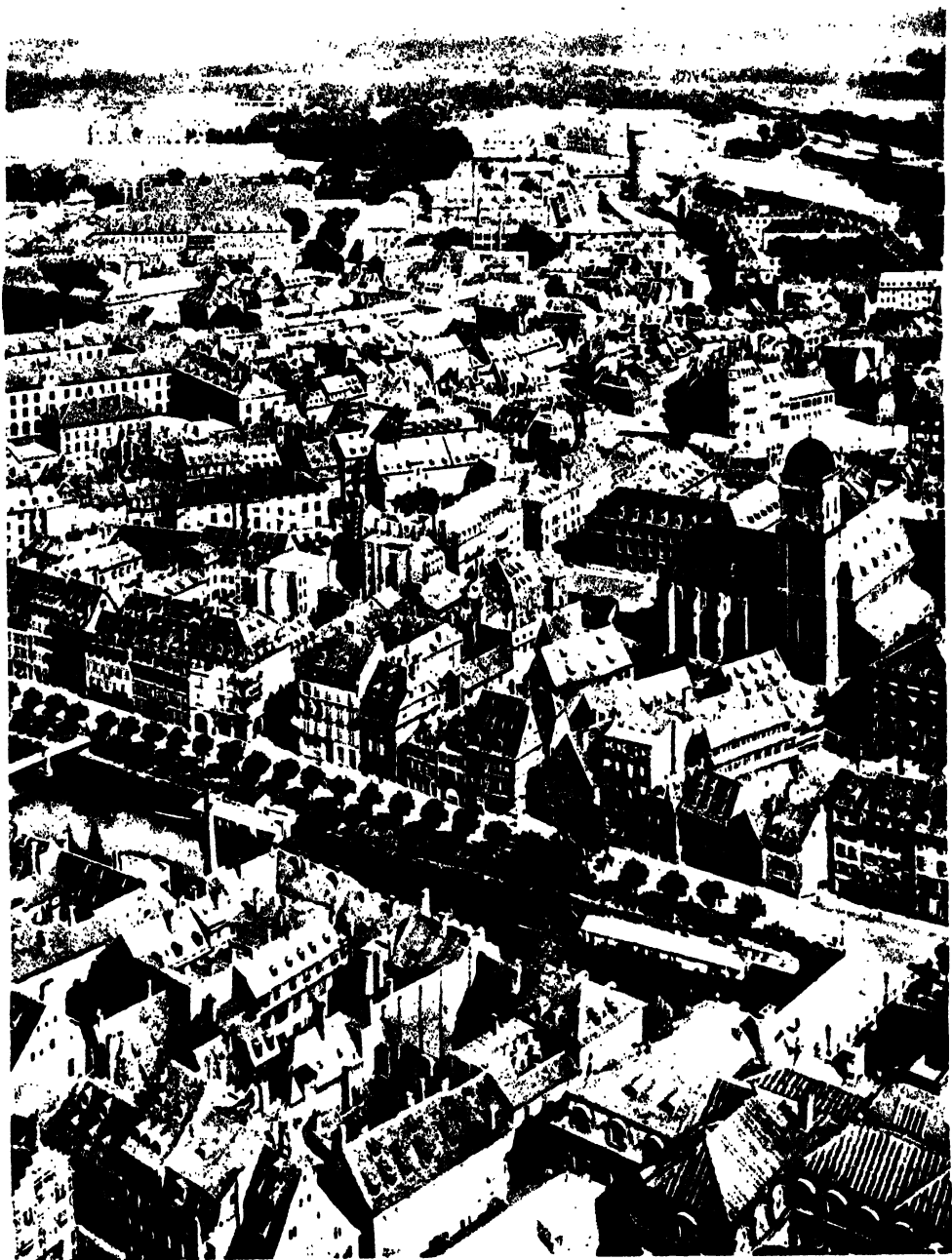
Donald McLeish

ALSACE. The French peasants, freed from the German yoke, work with a will on their liberated fields—some of the most fertile in Europe



ALSACE. *Dominating the old and new buildings of Strasbourg soars the Cathedral Tower, 465 ft. high, one of the loftiest in Europe*

Donald McLeish



Donald McLeish

ALSACE. *This modern quarter of Strasbourg lies beyond the southern branch of the Ill; ancient only are the houses lining the water*



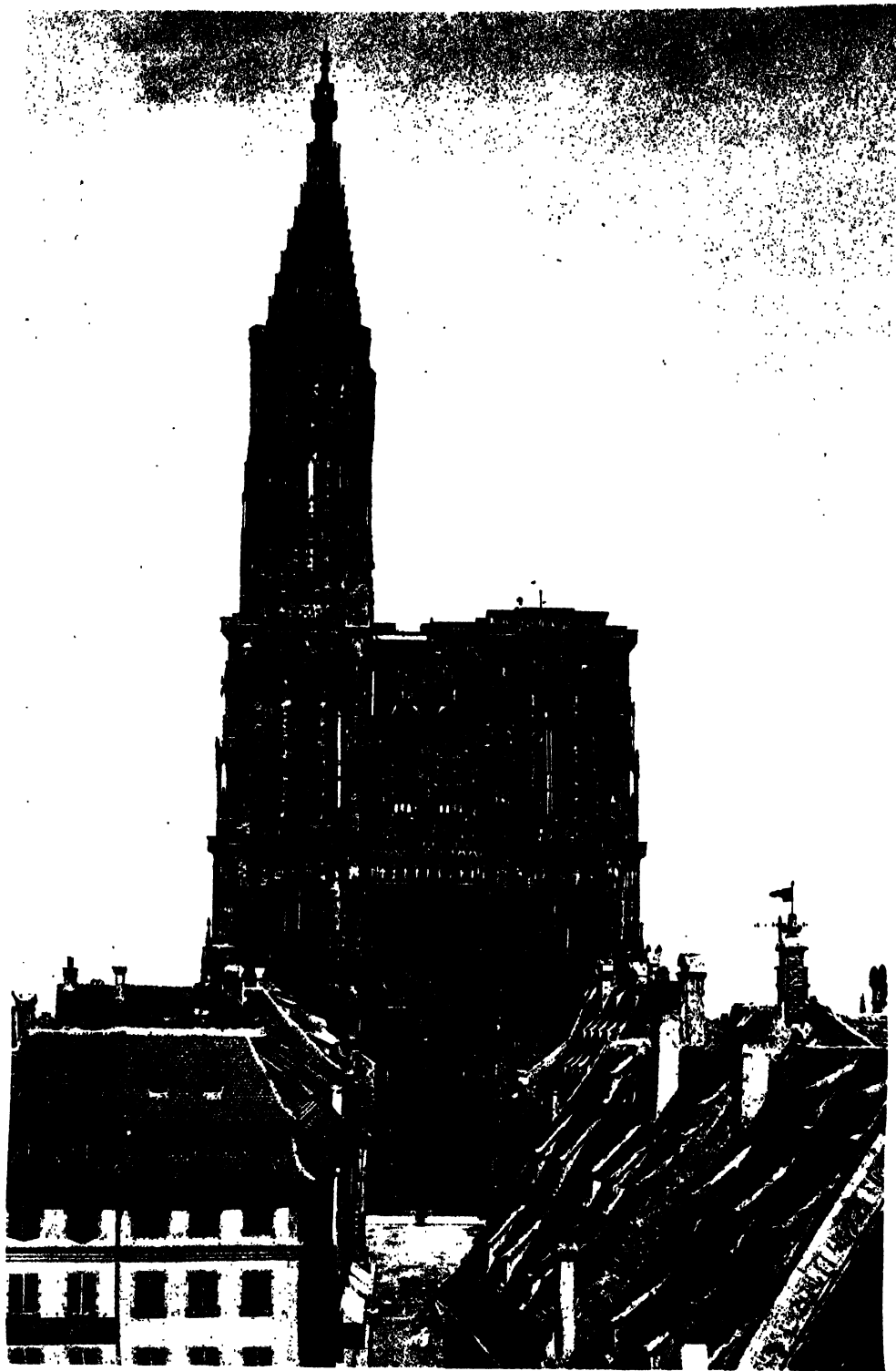
ALSACE. *Spite modern suburbs the heart of Strasbourg, with narrow streets and half-timbered houses, retains a medieval aspect*

Donald McLeish



Donald McLeish

ALSACE. The town Saverne, incorporated with the German Empire in 1870, was restored to France by the Peace Treaty of 1919



ALSACE. Strasbourg's pride is her stately minster, a beautiful Gothic edifice with west façade cased in exquisite tracery and sculpture



Office Français du Tourisme

Two notable bridges lead from Strasbourg, Alsace's capital, across the Rhine to Kehl; the iron railway bridge was erected by the Germans



Office Français du Tourisme

ALSACE. Sheltered by the eastern slope of the Vosges, the small town Niederbronn, famed as a watering-place, lies in a lovely setting



These quaint towers adorn the Alsatian towns of Haguenau (left) and Mulhouse, and are remnants of their prosperity as free imperial cities.



ALSACE. The medieval character of Colmar and Ribeauville is well portrayed in this venerable dwelling-house and gate tower respectively.

Office Français du To

shoulder or promontory of Hoh-Koenigsburg, with a towered, embattled feudal castle, restored or ruined, but always commanding, romantic, and distinctly picturesque.

On the Alsatian side the mountain slopes, generally, are very steep, and since there is a heavy annual rainfall on the Vosges amounting, in a wet year, to some four or five feet of precipitation, torrents of water, at certain seasons, come rushing down the hillsides, and would work destruction had not a system of dams and reservoirs already harnessed a part of this fall to the docile service of man.

Most of the eastern streams of the Vosges find their way, at last, into the river Ill, which, rising in the Jura Mts., and flowing northward through the midst of the plain, joins the Rhine a little below Strasbourg. Much of this Alsatian plain, thus drained by the Ill and the Rhine, has been covered, by an age-long flow of water over it, with a thick layer of "loess," a calcareous deposit which has made of these lowlands one of the most fertile districts of France, and had won for them, from across the Rhine—until 1918—the name "Garden of Germany."

With a soil thus made suitable to many kinds of culture, well watered, sheltered from northerly winds, and enjoying a mild climate, this plain of Alsace is a home of great prosperity and abundance. The mean temperature at Strasbourg is about 49.8° F., at Metz about 48° F., and the annual rainfall some 27 in.; but on the Vosges the weather is more severe and the heights are

snow-covered annually for six months. On the western side of the Vosges the slopes are usually less abrupt, the fall being by a series of gentler gradients slowly sweeping down towards the Paris basin.

On the western foothills of the Vosges, approached from Alsace by the famous Col de la Schlucht, lie the beautiful mountain lakes of Longemer and Gérardmer called after Gérard of Alsace, first Duke of Lorraine-Longemer; and, loveliest of all, Retournemer, above which, half hidden in the trees, rises the great escarpment of the Roche du Diable. These lakes, becoming every year more popular, both as summer and winter resorts, are the most picturesque sites in Lorraine, a province which, in general, is harsher and less picturesque, as it is also less fertile, than Alsace. One has heard a proverb, hereabouts, to the effect that "Without Gérardmer and a



Donald McLeish

RELIC OF PRUSSIAN RULE IN STRASBOURG

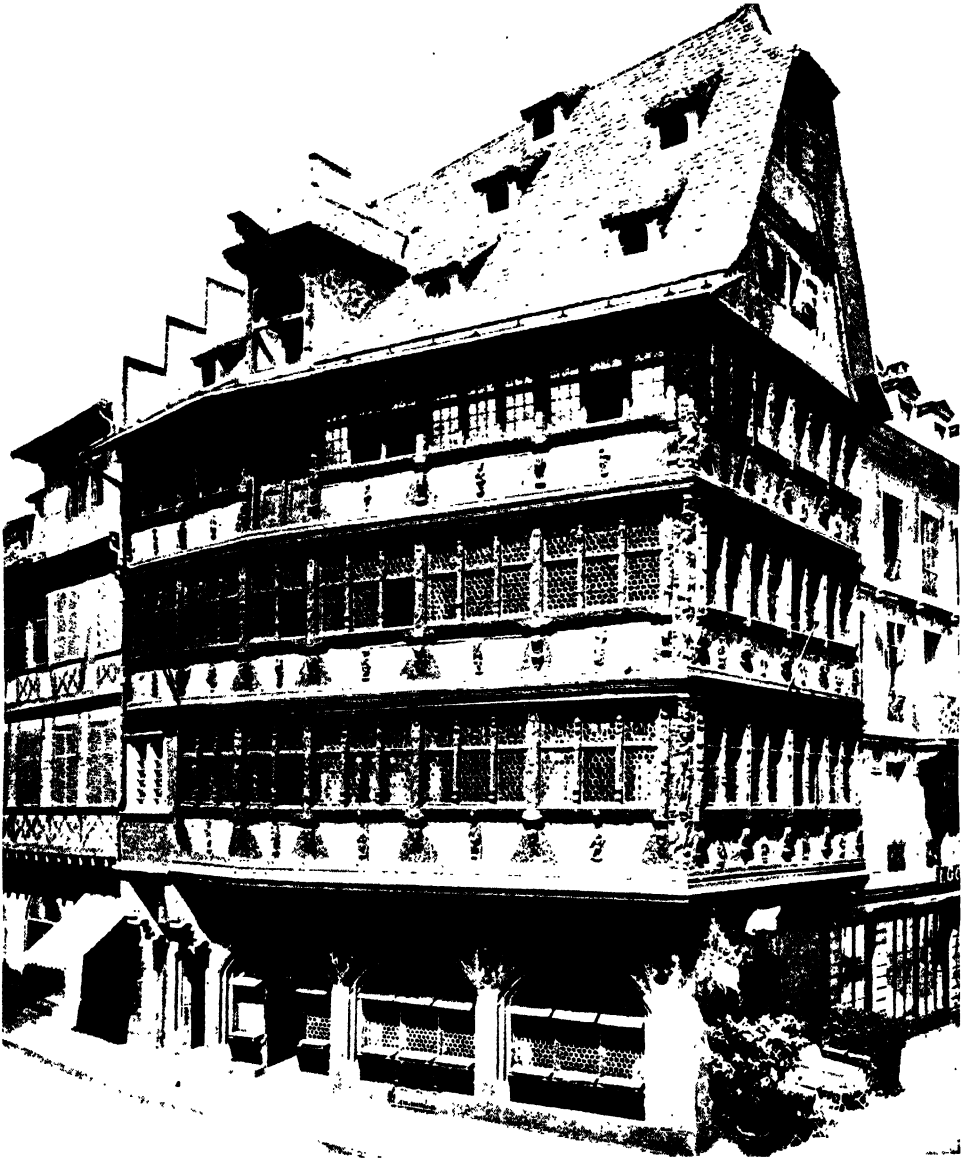
Built in Strasbourg after the Franco-Prussian War as a provincial residence for the Emperor William I., this very florid edifice stands in the Kaiser Platz; the heralds on its soaring dome are one hundred and fifteen feet above the road

bit of Nancy, what would Lorraine be? "

But it is not quite so bad as that. Lorraine, though sorely battered by the Great War, still possesses, in common with every other French province, a charm peculiarly its own. Let us enter it, then, not by the Schlucht and the Vosgian lakes, but by what is

geographically the more natural way, namely from the south, over the plateau of Langres, because that way, northward, flow this province's principal rivers, the Meuse and Moselle.

These rivers have been humorously dubbed traitors to France, since they have not followed the more ordinary course of French waterways of "the



HALF-TIMBERED HOUSE OF MEDIEVAL STRASBOURG

The more ancient and picturesque quarters of Strasbourg lie in the island formed by the two branches of the Ill on which the city lies ; and not least beautiful is the square before the western façade of the cathedral. Among its wonderful old houses is the Maison Kammerzell or Kammerzell'sches Haus, a fifteenth or sixteenth century dwelling restored with skill and converted to a wine-shop



Society Generale d'Alsace-Lorraine

COLMAR, A HOMELY VENICE OF ALSACE

Lying fair in the watered plain between the Vosges and the Rhine, Colmar with its old world streets and modern cotton industries is the chief city of Upper or Southern Alsace. The Lauch and the Logelbach, tamed and canalised, flow through the town, sometimes flanked with streets and open squares and sometimes hemmed, as here, between the back doors of picturesquely huddled dwellings

East," such as the Aisne and the Oise, which is westward, towards Paris, but have preferred a northern course, thereby, however—and this applies to the Moselle in particular rendering good service to the new traffic with the Rhinelands which the now regained French influence upon the great river seems certainly to forecast.

So, due north, across a rather somnolent and inactive region, the Meuse makes its way, through Joan of Arc's country, once a land of almost unbroken forest, but now much denuded by ravages of time. Sometimes straight, then twisted, and strangled into hair-

pin bends, when the stream forces its way through impeding rocks—as at the "organs" of St. Mihiel, not evacuated by German troops until near the close of the Great War—its waters glide between pleasant hills, that are geologically of coral formation, wrought in the days when a warm, semi-tropical sea flowed over the marches of Lorraine.

Westward, as we reach Commercy, lies the Barrois, once a separate duchy, now merged in the greater Lorraine—a district of calcareous plateau, riddled with caves and grottoes, shaded with majestic forests, dear to the muse of André Theuriet—and sparsely

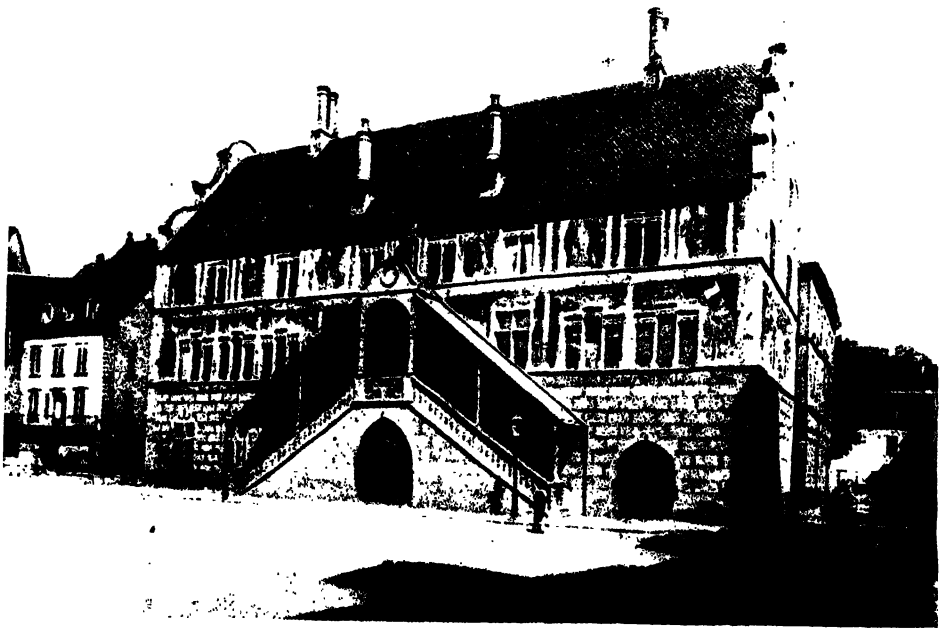
inhabited, except in the valleys, such as that of the Ornain, where lies its ancient capital, Bar-le-Duc. Eastward, towards Nancy, cut through by a bend of the Moselle, is the district of La Haye, given over to agriculture, its slopes rich, in their seasons, with hops, corn, and vines, among the best that Lorraine produces.

Still further north, nearly midway between Meuse and Moselle, is the Woëvre, a country once wooded, like the others, but now a somewhat harsh and sombre region, of flat horizons, and sad, if glorious, memories of Mars-la-Tour, Rezonville and Gravelotte. Through its stiff, clayey, clinging soil the plough is not easily driven, and certain of its cantons bear, to this day, the significant epithet "Malpeine." Eastward from it you may see, by night, blazing, a lurid red upon the darkness, the watch-fires of a modern industrialism that, more than any other, contributes materially to the riches of Lorraine and draws upon itself the covetous glances of every neighbouring

government. For this is "the Iron Country," the "Pays du Fer" of the Briey basin, where, among the farms, still worked by native peasants, an alien industrial population of Belgians, Poles, and other races, work the mines and the forges.

Equally rich is the southern section of this iron country, the Nancy basin. Germany, when, in 1871, she annexed a large part of the province and thrust out her new boundary some twelve miles south-westward from Metz, divined to some extent the enormous underlying wealth of Lorraine's sub-soil, and would, doubtless, have taken more of it even than she did had her scientists then known how to dephosphorise the mineral ore; but that discovery, which opened the mines of Lorraine for the first time to full exploitation, was not made for France's benefit—until 1878.

It was from Lorraine, nevertheless, that Germany dug a very large proportion of the mineral by means of which she munitioned herself during



THE TOWN HALL, EPITOME OF MULHOUSE'S OLD-TIME PROSPERITY

Among the chief industrial towns of Upper Alsace, Mulhouse has been for 300 years a centre of the cotton-weaving industry started first under water-power from the Vosges farns, and now worked by steam from Saar coal; paper and ironware are also manufactured. The historic town hall, erected in 1552, is a solitary witness of the medieval pre-eminence of Mulhouse as a free imperial city



Société Générale d'Alsace-Lor.

ROOFS AND SPIRES OF METZ FROM THE HEIGHTS

Formerly capital of German Lorraine and now a departmental capital of France, Metz stands on the rich banks of the Moselle, surrounded by hilly, well-wooded country. River traffic here is considerable in the famous Moselle wines, agricultural produce and fruit. In the town itself the streets are narrow and winding save where modern building in the German style has been introduced.

the Great War, and it seems certain that the Continental power (i.e. France) now controlling the exploitation of such vast stores of material must exercise in the future a dominating control over the iron and steel industries of central Europe, provided always that it can at the same time lay hands upon coal enough to supply the necessary motive force.

In this connexion, therefore, France's Ruhr policy is significant, and it must be remembered also that, some fifty miles only north-eastward from Nancy, in the Rhine Province, and abutting upon the Lorraine boundary, is the rich coal area known as the Saar basin, which, by the Treaty of Versailles, became a state, under a government representing the League of Nations, with France as the occupying power. This was not the first time that France had occupied the Saar basin. She held it from 1792 to 1815, and the rules laid down under the Napoleonic regime to some extent have guided the administration in their difficult task there. The coke needed for working the Lorraine iron is best obtained from the Ruhr, the Saar coal being generally too soft for the purpose,

Mining and metallurgy, therefore, are the first industries of Lorraine, and they include, besides iron, the working of the salt marshes around Château-Salins, north-east of Nancy, whose crystal galleries are far pleasanter to wander in than are the gloomy underworlds of iron or of coal. Another secondary industry, springing directly from below ground, is that provided by the carbonated, sulphurous, iron springs of Contrexéville and Vittel, known almost throughout France.

Above ground the Lorrainers generally are occupied with agriculture and forestry. Such woods of the Côtes des Menses as the Great War did not destroy support many of its people, and about the valley of the Moselle, by the Zaintois and Vermois, are found the corn-lands that fill the granary of Lorraine. La Haye grows much barley and oats; many an acre bristles with hop-poles, and the slopes of its hills in summer time are green with vines. On the Alsatian side the hillmen's principal occupation is the rearing of cattle; on the lower grassy slopes, the culture of the vine, and the exploitation of the fir, and other forest trees. A pleasant sight it is to watch the

"Schlittours," or sledge-woodmen, at work among the pines, some of which attain a height of 100 feet, piling the logs upon their wooden sledges, and trundling the roped loads over a railroad of hewn trunks down to the villages below, that are vocal from early morning until the evening with the thrilling whir of the saws and the mingled voices of the sawyers.

In the plain of Alsace, with a soil generally richer than that of Lorraine, a more intensive culture is carried on, and many crops are grown in abundance, among them wheat, oats, barley, rye, maize, potatoes, sugar beet, hops,

tobacco, flax and hemp; but, rather strangely—its raw material being an exotic growth of more tropical latitudes than these—a major industry of Alsace aided, among other favouring circumstances, by the bleaching qualities of the Vosgian waters, is cotton manufacture, and, to some extent, that of woollens also, carried on around Mulhouse and Colmar and in the valleys that nestle below the great mountains of the Vosges.

Equally important, having regard to future developments, is the fast growing exploitation of that useful alkali-salt so much in demand for



Office français du Tourisme

ALSACE FROM A LOFTY PINNACLE OF THE VOSGES

From the isolated, grave-strewn summit of Hartmannsweilerkopf, scene of some of the fiercest fighting of the Great War, an impressive view may be had of the rich Alsatian plain stretching eastward north of Mulhouse to the Rhine. Formed mainly of a deep, water-deposited "loess," it is extremely fertile, supporting many a famous vineyard and bearing abundant crops of cereals, etc.



Ollivier-Travers du

KAYSERSBERG NESTLING CLOSE IN A VINE-CLAD VALLEY

Lying along the foothills of the Vosges Mountain, an uninterrupted chain of towns includes Kayserberg, Ribeauvillé, and Saverne. Of these, Marmoutier, Thann, and Sélestat are the most important. The vine-clad slopes are also valuable for vineyards and they provide the most useful and easily-worked building sites.

manure as well as for the manufacture of explosives, and numerous other chemical activities, viz. potash, of which a vast deposit, covering some seventy-eight square miles, extends between Mulhouse and Colmar. Thus what was until recent years a German monopoly passed, in part at least, to France, and is becoming a great source of Alsatian revenue. Petrol also has been discovered in this province.

In the matter of transport both provinces are moderately well served by road and rail, and since France regained control of the Vosgian slopes the much discussed new line and tunnel through the Vosges have been in course of construction, and will considerably shorten the journey to Paris. A fairly regular air-service between Paris and Strasbourg has been for some time in operation. The river and canal system, never very satisfactory, needs development, and the Rhine in particular, always a rebellious river, of little use

alto above Strasbourg, may be made a more effective waterway.

Under the Treaty of Versailles a French official presides over the river's commission of control, and the ports of Strasbourg and Kehl are temporarily united. Strasbourg, in the future, can easily become a much more important centre of distribution for local commodities, such as Ruhr coal, whose natural way of transport is the Rhine; but it is essential that the canal system, including canals of the Marne-Rhine, Rhône-Rhine, and Saar, should be widened and deepened. A scheme for the construction of a lateral Rhine-land has long been talked of, but has not, so far, materialised.

Little by little, no doubt, as things in this much troubled region of Europe become more settled, France will develop a larger and more ambitious policy as regards the whole of her Rhine communications. The most important branches of Alsatian foreign trade, at

the present time, are the exports of textile cotton from Mulhouse and district, and those of potash to England and America, the commoner stuff for direct application to the land, and the refined qualities for compound manures.

Full of pictorial and historical interest and extremely fascinating to wander through are the cities of Alsace-Lorraine, excepting, perhaps, only Mulhouse, which, though commercially important,

the great Gothic cathedral of Nôtre Dame. In the Place Kléber, at Strasbourg, the Marseillaise was first publicly sung, and the entry of the French troops into that city in 1918 was the occasion of frenzied rejoicing.

Equally picturesque, and for charm second only to Strasbourg among Alsatian towns, is Colmar. It was here that, in 1354, Charles IV. sanctioned the alliance of the ten imperial towns of



NATURAL GATEWAY ON A MOUNTAIN PASS: THE "ROCHE DU DIABLE"

Nowhere in the continent of Europe is there to be found any more beautiful country than that which lies round the western spurs of the Vosges on the borders of Alsace and France proper. Here lie the lovely mountain lakes, Longemer, Gérardmer and Retournemer, and above them, climbing up through the trees, is the Schlucht pass with its tunnelled escarpment, the "Roche du Diable"

is, to the stranger, comparatively dull. First in dignity and interest comes Strasbourg, the great capital of Alsace, with a population of 180,000. It is a magnificent city, watered by the two branches of the Ill, and offering most vivid and striking contrasts between the modern town of heavy and rather pretentious German architecture, with fine public and university buildings, and the ancient, medieval Strasbourg, whose narrow, picturesque streets, of timbered, gabled houses, with overhanging roofs, group themselves about

Alsace, known, thenceforth, as "The Décapole," whose resolute spirit of freedom is still reflected in the traditionally independent Alsatian character. Colmar was the home of "Hansi," whose busy and bitterly ironic pencil during the war did much to foster, in Alsace, the already instinctive hatred of despotic German rule.

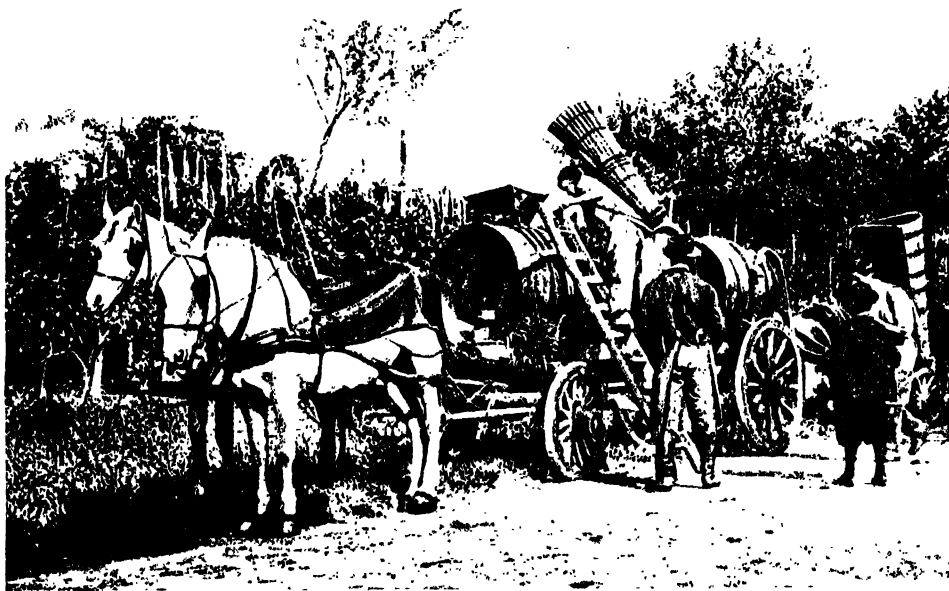
Wherever you choose to wander among the towns and villages hereabouts, beauty and historical memories are to be found, whether you keep to the lowlands or climb to almost any



Société Générale d'Alsace-Lorraine

HOW THE STURDY LORRAINERS GARNER TIMBER FROM THE VOSGES

Above the green meadows of the lower slopes of the Vosges tower high the crags and clefts covered with dense forests—the raw material of one of the staple industries of Alsace-Lorraine. The trees are felled, trimmed and sized, and then piled on sledges that run from the heights on wooden railways to the valleys where are the saw-mills. The sledge-working foresters are known as “schlitten”



Société Générale d'Alsace-Lorraine

VINTAGE TIME NEAR REICHENWEIER

Between Ribeauville and Kaysersberg lies the little township of Reichenweier (Riquewihr), notable for its beautifully preserved medieval walls and gates. It is in the district around that some of the finest wine of this wine-producing land is vinted; and here by a laden vineyard we see its pale sweet produce being tipped from funnel-shaped baskets into great casks that will bear it to the press



Société Générale d'Alsace-Lorraine

WELCOME IF UNINVITED GUESTS

On gable and chimney-top throughout Alsace the cumbrous nests of the storks are a familiar sight. They build here safe from molestation, protected by age-old custom and the immunity of undying folk lore.

wheel. From every side comes the pleasant chip-chip of wood hewn with an axe and the long-drawn whir, whir, whir of machines sawing the mountain pines. Logs are piled right and left before the cottage galleries, overhung by friezes of vine, and one catches here and there a faint odour of leather, recalling the fact that tannery competes with timber as an industry of the town. Looking up at the centuries-old roofs of Barr, the eye is caught and held at once by an object familiar to all who know Alsace a stork's nest perched upon a chimney top and showing black against a sunlit sky. The provision of electricity to nearly every Alsatian village has been a great boon to the farmer and the rural community.

Lorraine also possesses beautiful cities, ancient and picturesque, the most important being the French and German capitals, Nancy and Metz, both astride the lazy waters of the Moselle.

small town of the Vosges, such as Lichtenberg, where, after a heroic resistance, the little garrison defending its medieval fortress—fiercely bombarded, and beset by numbers ten times greater than their own—surrendered on August 17, 1870.

Charming, too, in their degree are the smaller towns and the villages of the lower Vosgian slopes, such as Barr, beloved of Gustave Doré, the painter, and a typical example of its kind. Barr is a busy, bustling little town. The mountain stream bubbling through the street turns many a merry mill-

Metz, the great frontier military city that the Germans, after 1871, protected with a new enciente of forts and maintained as the most impregnable stronghold in the world, is a live and imposing town; but for beauty and interest it is eclipsed by its rival, Nancy, the great city which grew up during the Middle Ages around the palace of the dukes of Lorraine.

Stanislas Leszczynski, ex-king of Poland, father-in-law of Louis XV. of France, on his accession to the dukedom in 1737 gathered to his court a brilliant company of artists who between them

united the old town and the new with a series of squares and buildings that have made of Nancy the loveliest example of an eighteenth century city in all France. The ensemble formed by the Hôtel de Ville and the Place Stanislas, the Arc de Triomphe, the Place de la Carrière and the Palais du Gouvernement has of its kind no rival in French architecture.

It is no wonder that the ex-kaiser William longed to ride in triumph into this capital of his "cousins the Hapsburgs," as he called them with some reason, since Francis I. of Lorraine married the Empress Maria Theresa of Austria. But he longed in vain. The French, at bay upon the heights of the Grand Couronné de Nancy to the north, successfully defended their city. A short distance southward from Nancy is another summit of deep though gentler interest, the "colline inspirée" (inspired hill) of Notre Dame de Sion, patron lady of Lorraine, a subject memorable in the writings of Maurice Barrès. Two other important Lorraine capitals are Épinal, which is the chief city of the Vosges department, and Bar-le-Duc, chef-lieu of the department of the Meuse.

The inhabitants of the towns and villages of Alsace-Lorraine, originally

Celtic by origin—because the Rhine and not the Vosges is the ethnological boundary of ancient Gaul—and mixed with a strong strain of Gaulish, Roman, Frankish, and Germanic blood, reveal special characteristics. Physically they are of middle stature, square-headed, and often distinguished, in the typical Alsatian type, by rather high, prominent cheek-bones.

Despite, or in part because of, their country's lamentable history as a battleground, both races are born fighters, independent, racially sensitive and gifted with a strong vein of Gallic humour, generally ironic, which from 1871 onwards exercised itself freely at the expense of their Germanic masters.

Sturdy independence is the keynote to an understanding of these people's characters; but in endeavouring to comprehend them fully it should always be borne in mind that the big civilizing influences which have made the two countries what they are have come down the centuries mainly from beyond the Vosges rather than from across the Rhine. The deeper civilization and with it the deeper affection, as well as the essential spirit, of Alsace-Lorraine are certainly far less German than French.

ALSACE-LORRAINE : GEOGRAPHICAL SUMMARY

Natural Divisions. Alsace is the western half of the Rhine rift valley, Vosges Mountains (chief peaks: Ballon de Guebwiller, 4,667 ft., Ballon d'Alsace, 4,083 ft.), Lorraine a section of the Paris basin.

Chief Rivers. Ill, a left bank tributary of the Rhine, parts of the Rhine (v. Germany north and south), Moselle (v. Germany south), Meuse (v. Belgium).

Chief Industries. Agriculture, particularly on the plain of Alsace, mining (see below), textiles on both sides of the Southern Vosges. Centres, Mulhouse and Épinal.

Minerals. Lorraine ironfield, from Longwy, south almost to Pont à Mousson, the chief ironfield in Europe. Its possession makes France second only to the United States as a producer of iron ore; part of the Saar coalfield, Sarreguemines. Salt: Nancy, Dieuze, and Sarralbe. Potash: north of Mulhouse, deposits of finer

quality than those of Stassfurt, 3 per cent. of the world's supply. Petroleum at Pechelbromm in North Alsace.

Natural Outlets. The Burgundy Gate, from Mulhouse to Belfort by the Rhône-Saône valley to the Mediterranean Sea, followed by the Rhine-Rhône Canal, at present not much used. The Middle Rhine valley, northwards towards Cologne by the Rhine Gorge and towards Hamburg and Berlin by the Main valley and Frankfurt. Down the Paris basin to Paris. Internally, the Col de Saverne, followed by the Rhine-Marne Canal, to which is connected the Sarre Coal Canal from the Saar coalfield.

Railways. Strasbourg and Mulhouse are the chief centres; the Vosges are a barrier, and before the Great War French lines on the west were not connected with German lines on the east of these heights.

Route Towns. Nancy, Metz, Strasbourg, Mulhouse.



AMERICA, NORTH

The Continent & Its Resources

by B. C. Wallis, B.Sc.

Author of "A Geography of the World"

THE northern half of the new world is a land of contrasts. Within an area which extends from 10° N. to 70° N. contrasts between tundra and jungle, snow-clad hillocks and mighty mountains rising in naked majesty about the timber line, are inevitable, but North America presents a more fundamental contrast than even these; by physical circumstance its closest ties are with the Pacific Ocean, while human bonds make it almost wholly an Atlantic country.

Turn the continent over on its back, as it were, and it will fit North-East Asia. Both areas are triangular. The northern limbs lie along the Arctic Ocean from Bering Strait east to Greenland, or west to Novaia Zemlia. The Pacific limbs are symmetrically balanced round the oldest of the world's oceans; they reach the isthmuses of Panama and Kra, half the world apart.

New Continents for Old

The third limb, in Asia, is no longer a coast-line, but before North America existed, the Asiatic triangle, then the ancient continent of Angaraland, here met the waters of the equally ancient Middle Ocean. The third limb, in the new world, now the Atlantic coast, corresponds, in part, with the western shores of the Middle Ocean, and for the rest, with the broken edge of the fractured ancient continent of Atlantis.

In each triangle, in north-west Angaraland or in Greenland and North-east Canada, occurs one of the oldest areas in the world.

Gentle bulges in the land contour comprise extensive almost level areas of hard, azoic, crystalline rock.

In Angaraland the ocean has gone and the old triangular continent has grown into Asia; in America the Canadian Shield has lost its eastward extent of continent and found the Atlantic ocean. Youthful North America corresponds with ancient Angaraland as part of the land mass surrounding the Pacific deeps.

Nature's Work in Prehistoric Time

The smallest of the ancient continents, Antillia, has been so submerged that its mountain ridges alone show above the deep waters to form the West Indies and Central America. These remnants best preserved of the world's oldest mountains, form a unique feature of the North American continent.

The mountains of North America were made later by strains and stresses from the Pacific, which crumpled the earth's crust against the stable and undisturbed Canadian Shield. The first crumplings produced a line of mountains between Atlantis and Antillia; deep troughs separated great ridges and molten earth matter intruded into even the oldest rock. Subsequently, the ridges were worn away until the eastern edge of North America was a plain; later still, this plain was elevated, and newly formed rivers carved the levelled surface into ridges and valleys which modern travellers know as the Appalachians or Eastern Mountains.

Rocks exposed in the numerous gorges of these rivers show that the tops of the present ridges were once the bottoms of the troughs formed when the land was first crumpled. The second mountains arose at a later date; ridge and trough appeared parallel to the present Pacific

coast, and mighty volcanoes uprose as part of the fire girdle of the Pacific. The period of disturbance, is not concluded; earthquakes still distort the land surface near the Pacific Coast. These are the Western Mountains; where a cover of sedimentary rocks, raised high above sea level is pierced in many places by intrusions of molten earth matter.

Thus arose the four dominant physical regions of America; the ancient Canadian Shield, a lowland so hard that rivers merely etch its surface; the West Indies and the Central American isthmus, mountains flanked by abysmal oceanic deeps; the Eastern Highlands, residual heights carved by erosion, the Western Mountains still unfinished.

Zone of the Great Rivers and Lakes

The fifth physical region is the hollow between the old Atlantis and the newer mountains. Within this lowland lie the chief American rivers and lakes. The lakes, along the edge of the Canadian Shield, are wide shallow pans due largely to the glaciation which ensued during the periods when ice, now confined to Greenland, covered the whole of the shield. The Great Lakes, Superior, etc., drain to the Atlantic by the St. Lawrence, an accidental trench in the shield; even to-day a short, shallow canal cut south of Lake Michigan would drain much of the lake water into the Mississippi. The other Canadian lakes, Great Bear, etc., drain to the Arctic Ocean as part of the normal drainage in the hollow west of the Canadian Shield. Here and also to the south great rivers flow down the long gentle slope eastwards from the Rocky Mountains, which are merely the eastern buttresses of the Western Mountains. The Athabaska, Saskatchewan, Missouri, etc., drain to the Arctic, Hudson Bay, and the Gulf of Mexico, in consequence of comparatively recent arrangements of the superficial layers of the great central lowland. From the eastern highlands the Ohio and other

rivers drain westward to the Mississippi. Metallic minerals originate along the edges of great intrusions of molten earth matter. Free-flowing lavas give rise to the sequence tin, copper, zinc, silver and lead; in North America tin has not been found except in Alaska. More viscous lavas yield iron, nickel, cobalt, manganese, and chromium. Gold, however, seems to occur merely by accident. The mineral regions of the continent depend therefore on its geological history. Coal occurs along the edge of the central lowland or in depressions in the Western Highlands; metallic ores are present near the lava intrusions along the edges of the mountains.

Mineral Wealth of the Continent

Copper, nickel, iron, and silver occur in the Great Lakes region on the edge of the Canadian Shield; iron in the Appalachians; copper, silver, mercury, zinc, and lead in the Western Mountains, chiefly on their eastern side. Gold is frequently found in alluvial deposits which are relatively soon exhausted; the heyday of the Yukon is past. Mercury is being deposited even to day in the unstable Western Mountains.

Variety of Climatic Conditions

Most of the continent lies within the range of the westerly winds; the north is Arctic and the south is tropical, and within the range of the easterly winds. The westerlies bring warmth, clouds, and moisture from the Pacific, cross the Western Mountains and descend to the plains as denser warmer winds, which are avid for moisture, and leave the east coast usually as cool as cold winds from a northerly quarter; their passage is marked by cyclonic storms where the surface varies in elevation or alternates between land and water. The continent has climatic regions, east-west zones subdivided by the north-south trend of the physical features.

South of the Arctic region, in the zone of the permanent westerlies, the coast

of British Columbia is wet with heavier rains in winter than in summer, and snow on the heights. The mountains depend on aspect, the windward side is wet, the slopes facing south are warm. The lowlands are arid in the west and rainier to the east. Rain comes in summer time as a short break in the succession of days of brazen skies and torrid heat, the ground is frozen and usually snow-covered in winter. The east coast is cool in summer, cold in winter, and, in the main, harsh and inclement.

Rainfall Contrasts of East and West

In the transition zone of winter westerlies the Californian coast has warm, wet winters and hot rainless summers. The mountains are usually arid, especially in the Great Basin, with hot, dry days and cold nights; the lowlands resemble those of Canada, but are warmer throughout the year. The Eastern Highlands and east coast have more rain than the lowlands.

In the zone of the easterlies, the Mexican coast is dry, Florida is wet, particularly in summer, and the West Indies endure heavy rains, usually each mid-afternoon. The zone is tropical, with relief from tropical heat only on the heights. The British Columbian coast has a climate most like that of the British Isles, and with its infinite diversity provides the best stimulus to human endeavour both mental and physical.

Crops and Cultivated Areas

The New York region comes next in the scale of suitability to man, but here the frequency of long spells of weather of the same kind and the intensity of the summer heat or the winter frosts react on man unfavourably. Elsewhere the climate lacks variety, the cold of the north, the continuous warmth of the south, the long successions of similar days on the lowlands all fail to stimulate the worker.

Naturally, North America falls into definite vegetation regions. The Arctic lowlands are tundra with stunted perennials and brilliantly coloured annuals.

The southern plateaux and the arid sections generally are almost barren; on their edges man cultivates the ground by dry farming methods. The Central Lowlands are mainly prairie grasslands, verging from scrub in the lee of the Rockies to parkland near the Appalachians. Across northern Canada and among the mountains is the temperate forest. The lowlands of Mexico, the West Indies, and Central America are jungle forest.

Elsewhere mixed woodland and grassland does not pay best for farming or plantations. Naturally a transition area, it is not successfully either forest or grass. The cultivation of grass type plants only pays in exceptional circumstances. The farmer ceased to grow wheat in face of the competition of the prairies. Maize, cotton, and tobacco require special treatment in selected areas. Fruit growing and other industries dependent upon the markets of neighbouring great cities all pay better.

The Catastrophe of the Boll-Weevil

The natural grass lands, the prairies, have seen many changes. First ranching lands, they were later covered with grain. Maize, the chief indigenous useful plant, was grown and fed to pigs to give rise to the meat-packing industry. The prairies became a granary for Europe until the growth of the American population threatened to leave no surplus for export. Wheat-farming was forced into Saskatchewan and westward into arid areas, and the ranching areas were further curtailed.

For decades it has seemed that the continent would supply the bulk of the world's raw cotton. The cotton belt was responsible for negro slavery with tremendous consequences upon the history and social organization of the United States, and, equally, upon the prosperity of Lancashire.

American pre-eminence in raw cotton seemed secure in face of actual competition with Egypt and India and potential competition with all the lands

where experiments in cotton growing were in progress. But catastrophe threatens the industry and human ingenuity seems incapable of dealing with the boll-weevil, the depredations of which will, unless speedily checked, drive many of the cotton planters out of the business.

Native peoples are of little account in the mosaic of the American population. The continent has been peopled chiefly from Europe. Apart from race or diversity of origin man may be classified in regard to his activities. Upon this principle and in a broad way North America may be divided into human regions. In the simplest human region, man merely garners what he needs; in the tundra the Eskimo exploits the food supplies within his range. Next comes the collector of natural products for trading purposes. The fishers of Newfoundland or New England, the lumberers of Quebec or the Rockies, and the miners form regions where the product obtained after great physical exertion is transported so far that the return for labour is poor, and the life of man is dour.

Primitive cultivation marks the next region. Man breeds plants and animals,

stores a surplus and leads a self-contained existence. The farmer of the Maritime Provinces, the freed negro of the South, the husbandman in the isolated Appalachian valleys, all exist where man merely endures or flourishes as nature is harsh or kind.

Developed from such types are the men who plan to obtain a natural surplus for the purposes of world markets, and the men who preserve the produce for the same purpose. Next come the manufacturers on a large scale. In the region of such producers man is controlled by topography. He frequents the valleys and the coast; by the sources of power when he puts his factory near coal or iron fields; by the climate when his works are placed where atmospheric conditions stimulate the workers or make manufacturing processes easier; by supplies of raw materials when he aims at getting primary products easily.

The last human region is that of the organizers, the men who make production possible. The majority of the people of North America live in close relation with the rest of the world as collectors, planners, producers, or organizers, and this relation finds expression in a world-wide commerce.

AMERICA, NORTH: GEOGRAPHICAL SUMMARY

Location. 10° N. to beyond 80° N.; 20° to 165° W. New Orleans, 30° N., cf. Cairo. Boundary between West Canada and U.S.A. 49° N., cf. the Lizard in Cornwall 50° N. Cape Farewell, Greenland, 60° N., cf. Cape Wrath, Scotland, 58½° N.

Physical Divisions. Western Cordillera, Eastern Highlands, Central Plain.

Climatic Divisions. ~ West coast: north, westerly winds, cf. British Isles; middle, westerlies in winter and Mediterranean climate; south, trade winds off shore, arid. ~ Interior: continental climate of extremes; north, extremely cold winters with snow; middle, light summer rains with great heat and light snowfall with intense cold; south, rainy summers. ~ East coast: north, cold and humid; middle, rain at all seasons, extreme temperatures with winds from the interior; south, summer rains, tropical heat.

Vegetation. From north to south: tundra, minute plants, frozen subsoil, summer flowers; forest, chiefly coniferous; mixed woodland and grassland; prairie,

grassland without trees; desert and semi-desert; evergreen jungle forest.

Rivers. Susquehanna and Potomac to east coast; St. Lawrence an accidental outlet for the Great Lakes; Colorado, Columbia, and Fraser to west coast; Mississippi and Missouri draining southern lowlands, Mackenzie, Saskatchewan draining northern lowlands.

Products. More than quarter of the wheat and oats; more than three-quarters of the maize; two-thirds of the cotton, quarter of the tobacco, quarter of the horses, one-fifth of the cattle, nearly half the pigs, but only one-ninth of the sheep of the world. Sugar-cane in the south and the West Indies, beet in the north. One-tenth of the world's wool. Nearly one-third of the world's coal, more than one-third of the world's iron ore, pig-iron, and steel respectively. Two-thirds of the copper, about one-third of the silver, lead, and zinc, quarter of the mercury, and a large share of the petroleum of the world.

From the Editor's Desk—(continued)

on Boston and Mr. Jerome K. Jerome on Dresden, in which city he spent four years of his life. London described by that charming and witty writer who has so oddly earned the reputation of "the gloomy Dean"—Dean Inge of St. Paul's—is another announcement which I am sure will give many readers pleasurable anticipation.

WHEN I was in the initial stages of my preparations for COUNTRIES OF THE WORLD, among the many possible contributors with whom I put myself into communication was one who, alas, had passed away before we had gone to press with the first Part, although in the autumn of last year when writing to me he seemed to be in good health and looking forward to further years of literary activity, as he said that he was just then moving into a new house on the north side of the Lake of Geneva. I refer to the late Sir Frederick Treves, one of the most charming descriptive writers we have had in recent years.

Eloquent Testimony of Sir Frederick Treves

IT would have given me great satisfaction to have included some contribution from Sir Frederick Treves in the present work, for which his pleasantly polished and familiar style of writing was so well designed. He was unable at the time to undertake the commission which I offered him, but he was good enough to write to me at some length and to give me the advantage of his personal experience that I might profit by it in designing this work. There can be no harm, I think, in my quoting from his letter, written in the most characteristically vigorous hand, which gave no hint that he would so soon be laying down his pen for ever:

In your new work let me urge that you give prominent place to *The Climates of the World*—a comparative view in simple language and without the usual host of misleading tables. The matter needs dealing with. I am surprised at the vast number of letters I receive containing questions as to the climate of this place or that. People travel more and the question of climate becomes of prime importance. People are becoming awake to the fact that differences of climate cannot be expressed in terms of temperature. Of more import are the diurnal variations in temperature (e.g. the Riviera), the amount of sunshine, the stillness of the air, the amount of moisture in the atmosphere, the altitude effects, and so on. The *feeling* of cold in England in, say February, is not to be expressed by the thermometer. Why can you ride all day on the High Veldt in Africa with the temperature at 102°F. in the shade when you can hardly crawl across the road at Singapore with a temp. of only 82°F.? The public want to know why these things are. How absurd is the popular view of the climate of the

tropics! If I were asked where I have felt the heat most I should say on the beach at Panama in December and in the streets of Marseilles in July, or have felt the greatest cold not in Canada at Christmas time, but in Constantinople in March. Another inquiry my tireless correspondents worry me with is of this kind: What sort of country is So-and-so to live in? This suggests a chapter on *The World's Standards of Comfort: Food, Domestic Life, Commodities, Transport, etc., not forgetting Pests, Mosquitoes, Sandflies, etc.*

That is very eloquent evidence of Sir Frederick Treves's keen and unselfish interest in the particular form of literary work to which he had devoted the later years of his life after retiring from the profession in which he had earlier won renown.

An Instruction to Every Contributor

I HAVE not hesitated to profit by his suggestions, especially as they were in harmony with my own notions of how this work should be produced, though, being unfamiliar with my editorial plan, Sir Frederick suggested chapters on specific subjects which could not be so dealt with. But throughout our work the inquiring reader will discover that care has been paid to precisely those points which are raised in the above letter, as it was an instruction to every writer to deal with his subject from the point of view of a Britisher or an American visiting the country or the city described and the effect which the conditions of life there would be likely to have upon him.

THE choice of Mr. Joseph Conrad to strike the note of our work in a charming and characteristic chapter of reminiscence, where adventures of the mind in map-land are combined so happily with recollections of far voyaging, is probably the best indication to the reader of the interest and entertainment that await him here.

Mr. Joseph Conrad's Brilliant Chapter

I AM especially proud of having been able to induce so world-famous an author as Mr. Joseph Conrad to collaborate in our work. He is one of those few of the writing fraternity to whom it is given to become celebrated as classics in their own lifetime, and yet to have the further satisfaction of being read, which is more than happens to many of the classics. I feel sure that many admirers of Mr. Conrad's genius will be attracted to this Part of COUNTRIES OF THE WORLD out of curiosity to read his brilliant and delightfully characteristic contribution, and I hope that most of these readers will sufficiently approve of our other features to continue as regular subscribers.

COUNTRIES OF THE WORLD will be completed in about 40 Fortnightly Parts

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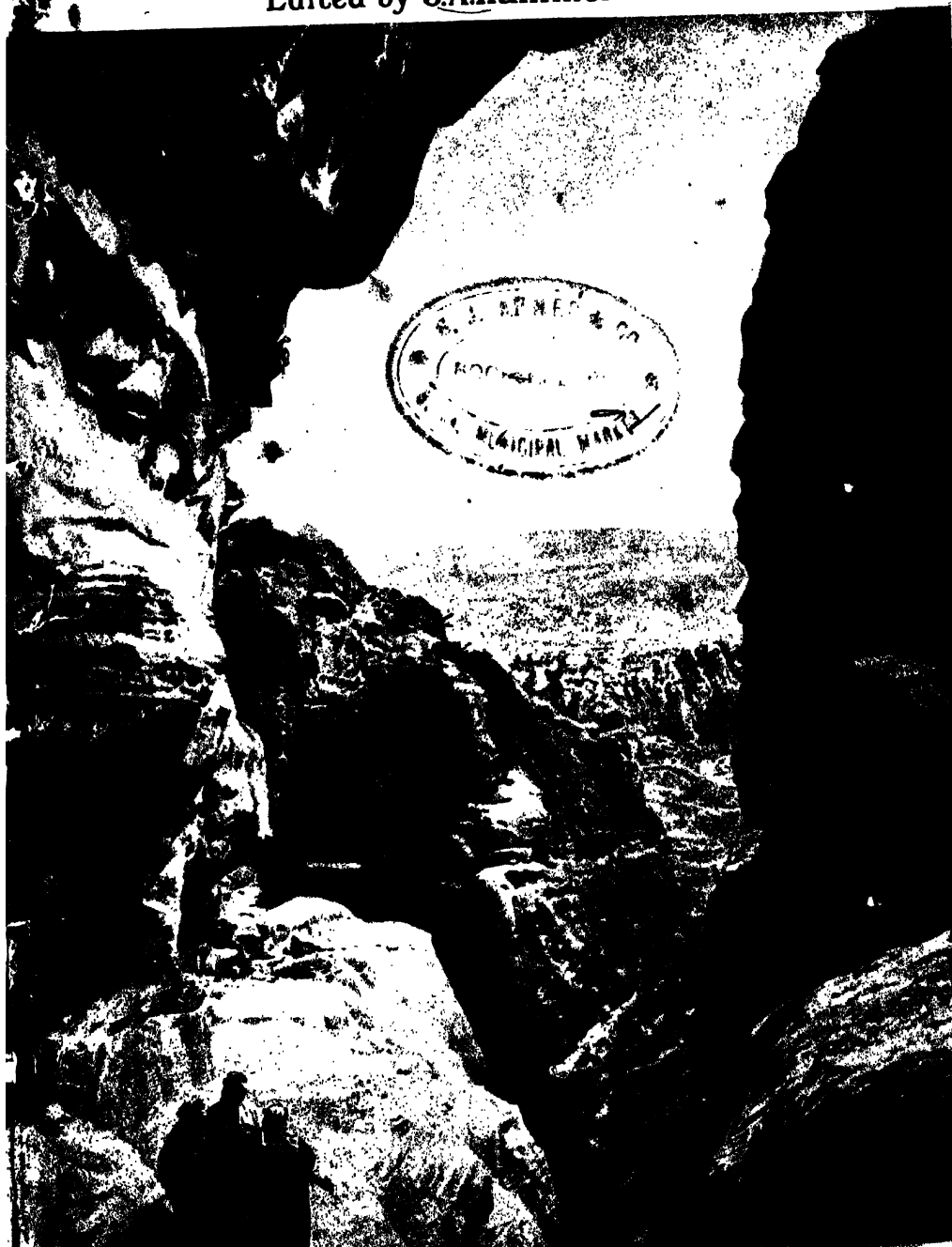
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3 COUNTRIES OF THE WORLD



Edited by J.A. Hammerton



Contents of this Part

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ARABIA	- - -	<i>Map & 32</i>	" - - -	<i>Rosita Forbes</i>
ARCTIC LANDS	- " "	<i>20</i>	" -	<i>Vilhjalmur Stefansson</i>
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PHOTOGRAVURE SECTIONS (16 pages), Antwerp & Arctic Lands

FULL COLOUR SECTION (8 pages), Arabia

From the Editor's Desk

THE FLEETWAY HOUSE, FARRINGTON STREET.
LONDON. E.C.4

SEVERAL correspondents have written to me regretting that **COUNTRIES OF THE WORLD** had not been launched at an earlier date, as other somewhat similar publications have made their appeals for public support before would-be readers had an opportunity of examining our first number. One correspondent, K.G.B. (Ealing), bases his regret upon the assumption that, however good **COUNTRIES OF THE WORLD** might be (he wrote before the first number had appeared) there would be those who, having subscribed months before for similar works, would hesitate to discontinue these, even if they compared very unfavourably with ours. Well, I can only say that I have no misgivings whatever as to the preferences of the reading public. No one person or organization can presume to monopolise any field of public activity. We cannot always be first in point of time to present each subject suitable for treatment in this class of publication.

Merit's True Touchstone - Success

IT was felt that **COUNTRIES OF THE WORLD** could not reasonably be offered to the public until "Peoples of All Nations" had been completed, although, of course, it would always have been possible to have speeded up the new work had it been felt that circumstances warranted us. But we live in a land of liberty, and any publishers and editors who can combine to produce a better fortnightly than **COUNTRIES OF THE WORLD** are entirely at liberty to do so and to do it now! In the end nothing but the merit of one of these works will carry it to success. My long experience of the publishing world has taught me little indeed if this new fortnightly of ours does not score an outstanding success; otherwise the accumulated editorial and publishing experience of a quarter of a century has been exercised to little purpose!

THESE notes are being written before the first part has got into general circulation, but despite the fact that our publishing day happened to coincide with the opening of the most intriguing parliamentary session we have known in recent years, I entertain no sort of doubt about the reception awaiting our effort to provide a work of popular geography which can confidently challenge comparison with any other that has lately appeared or is likely to be attempted in the near future.

Marvels of Modern Architecture

READING a letter from Mr. T. P. O'Neill, of Carlow, Ireland, I am reminded of my first visit to New York, when I had an opportunity to admire a genuine example of American enterprise. I will make a brief note on this before quoting from the letter that has sent my mind back a matter of ten or twelve years. Unlike most British travellers - and probably most American travellers also - I found myself, after a few days in New York, a firm admirer of that city. Its "skyscrapers," of which I had heard so much, appealed to me as among the most vigorously beautiful things I had seen in my very extensive travels. I shall be disappointed when Mr. Hugh Walpole comes to describe New York in **COUNTRIES OF THE WORLD** if he has not a good word to say for these marvellous achievements of modern architecture, worthy to rank with the most celebrated triumphs of the ancient builders.

Sound Commercial Principles

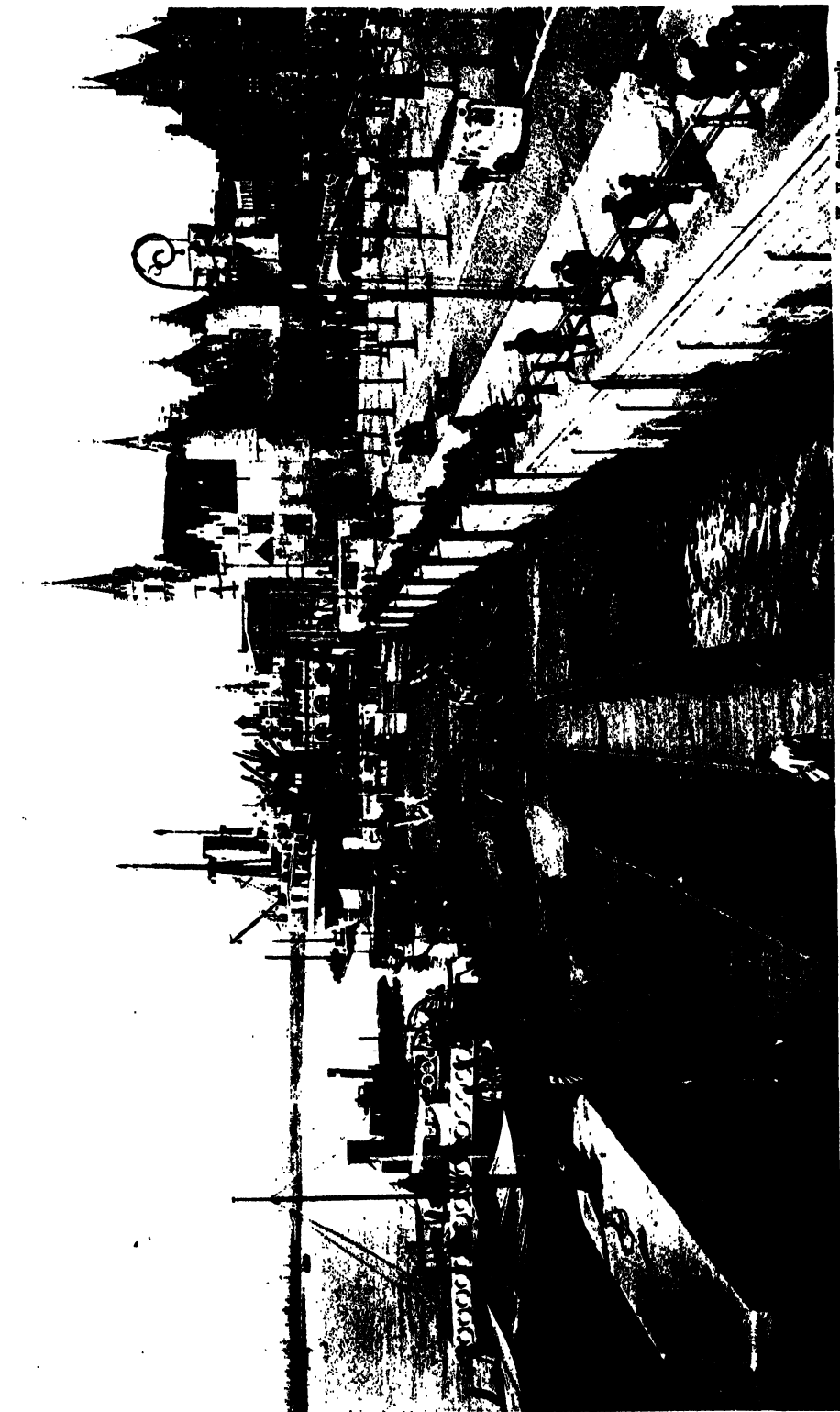
IHAVE since seen New York in many moods, and have never ceased to be fascinated by the city, which, far more than London at any time in its history, and especially if looked at architecturally, deserves to be dubbed the

[Continued on page iii. of this wrapper]



Donald McLeish

ANTWERP *This impressive view of the Cathedral tower is seen from the Quai Van Dyck. The lion is the national emblem of Belgium*



W. H. Smith, Brussels

ANTWERP. Thoroughly modern in equipment are the quays extending for five miles along the Schelde's right bank; even the roofs of the dock sheds north and south of the Steen are laid out as terraces with cafés

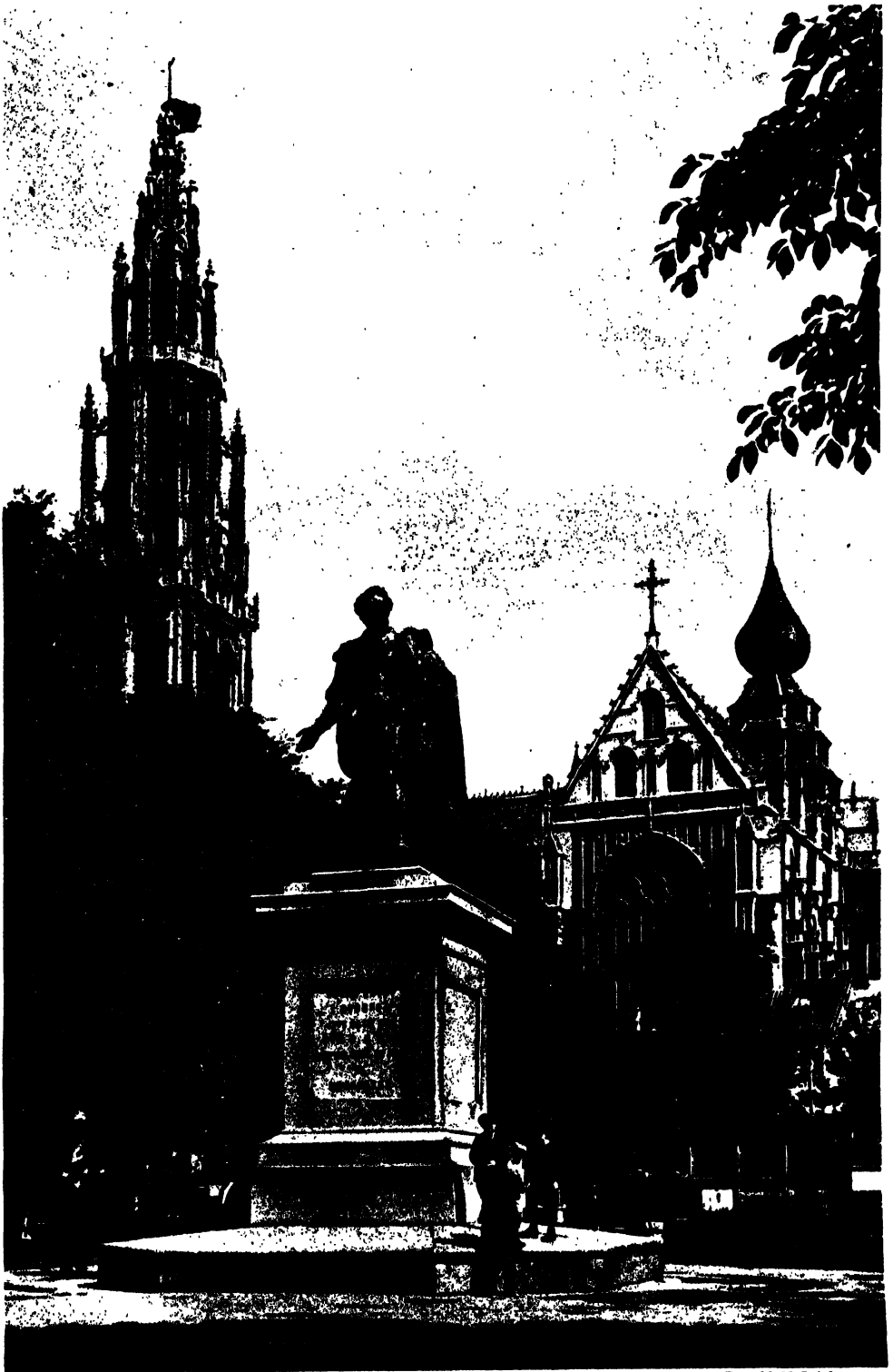


ANTWERP. The old 16th century Guild Houses in the Grand Place formerly belonged to various commercial corporations and recall the vigorous activity of the merchants and manufacturers of the Middle Ages



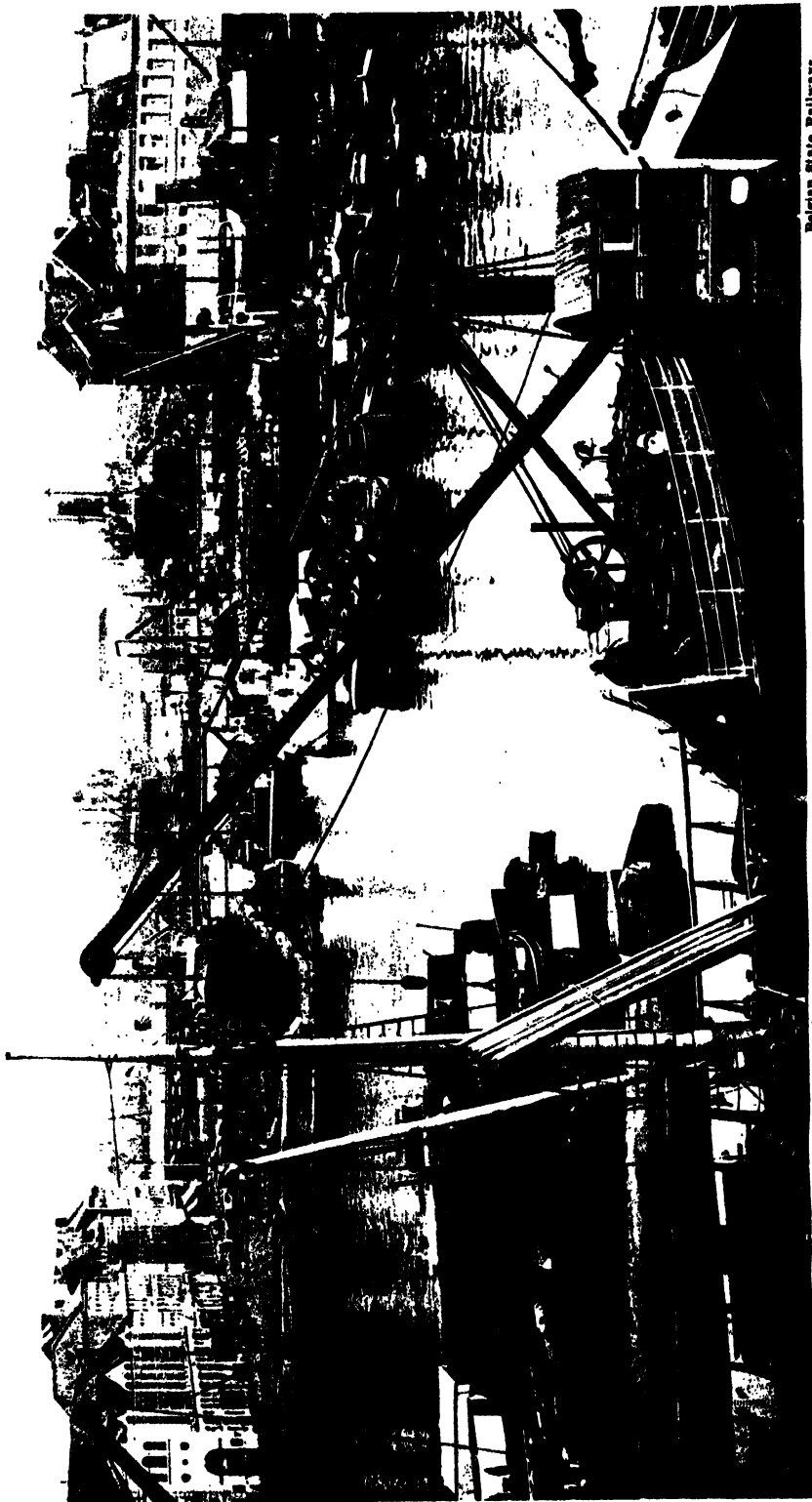
Donald McLeish

ANTWERP. In the Grand' Place is this bronze fountain of the legendary Salvius Brabo who slew and cut off the hand of Giant Antigonus



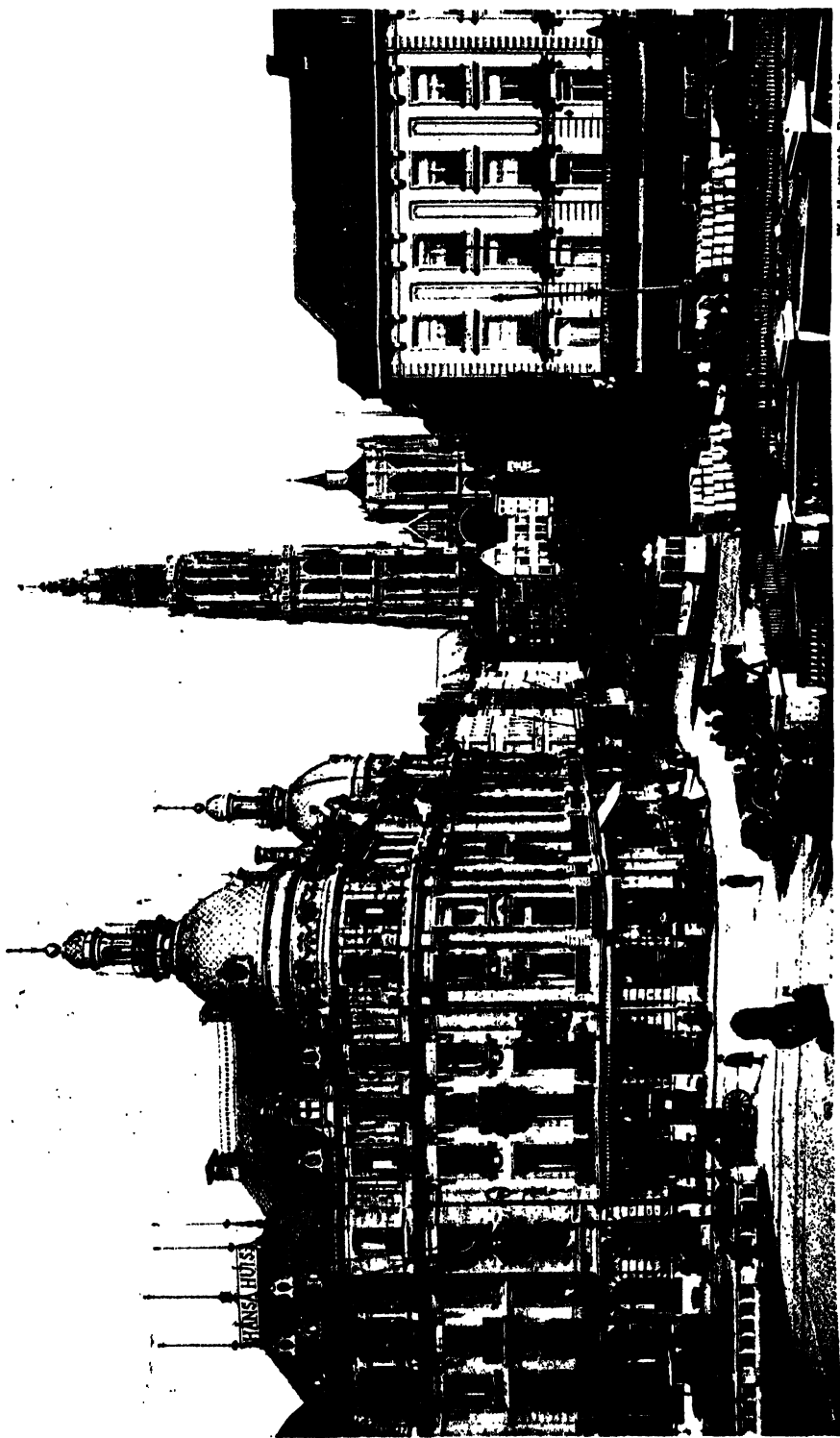
Donald McLeish

ANTWERP. *In the Place Verte, hard by the Cathedral, stands a bronze statue of immortal Rubens, painter, diplomatist, and statesman*



Belgian State Railways

ANTWERP. In the magnificent docks to the north of the city, accessible to vessels of all sizes, steamers and merchantmen receive and discharge their cargoes by means of gigantic but noiseless hydraulic cranes



W. H. Smith, Brussels
 ANTWERP. At a corner of the Van Dyck Quay, into which leads the busy Canal au Sucre or Suiker-Rui, rises the so-called Hansa House, begun in 1902, adorned with allegorical figures in bronze by J. Lambeaux



Reconstructed on the lines of the original Exchange, burnt down in 1858, Antwerp's new Bourse is an imposing edifice of elegant design



ANTWERP. *The Plantin-Moretus Museum, former home and workshop of those great printers, was bought by the city in 1876*

ANTWERP

The Great Seaport of Little Belgium

by Emile Cammaerts

Author of "Belgium from the Roman Invasion to the Present Day," etc.

THE life of Antwerp is bound up with the navigation of the Schelde, from which it derives all its prosperity. It is always wiser to approach a great port from the sea. London remains a riddle unless some attempt has been made to visit the lower reaches of the Thames. But London life is not so closely dependent on the Thames as Antwerp's activity is dependent on the Schelde. Besides being the first port in the world, London is also the capital of a great country and of a great Empire. Besides its commercial activity, Antwerp can boast only of being the second town of one of the smallest countries in Europe.

A traveller on the Harwich route would be wise in rising early and going on deck as soon as the ship steadies her course through the calm waters of the estuary. In bright weather he may get a glimpse of Flushing, the small Dutch port established on the southern coast of the island of Middelburg, and later, of Terneuzen, at the entrance of a broad canal leading to Ghent. On the north lies Dutch Zealand, on the south a small strip of Flanders annexed by the Dutch in the seventeenth century.

Heir to the Prosperity of Venice

The traveller finds himself in Dutch waters and obtains at one glance the explanation of Antwerp's troubled life during modern history. History recalls to him how, four centuries ago, the port became the greatest market and first banking centre of the world, inheriting the prosperity of Venice and benefiting from its exceptional situation on the coast of the North Sea opposite to England and within easy reach of Central and Southern Europe. He

might be reminded that, after the partition of the Netherlands, the Dutch completely ruined the country's trade by closing the Schelde. Their action was so effective that for two centuries and a half all communications with the outer world ceased and even the Emperor Joseph II. himself failed to re-establish them.

Activity of the Port To-Day

His attempt took place in 1785 and is known as the "War of the Cauldron," because a shot fired by a Dutch cutter on the *Louis*, which was flying the Austrian flag, happened to hit a cauldron on the deck of the ship. No other casualties occurred. Napoleon was more successful, but the trade of Antwerp could not benefit from his policy owing to the Continental blockade, and it was only after the Treaty of Vienna and the formation of the new kingdom of the Netherlands that ships were again allowed to go up the western mouth of the Schelde, bringing trade and prosperity not only to Antwerp but to the whole of Belgium.

As soon as the estuary narrows, with the crossing of the Belgian frontier, signs of this prosperity become evident. Ships of all sizes and nationalities are seen on every side, on their upward or downward course, and soon the new and old docks appear on the right bank of the stream. They must accommodate an enormous trade, for the four years of stagnation brought about by the Great War have not seriously impaired the port's great activity.

During 1913 the tonnage of ships coming and going reached 25 millions; during 1921 it was 25½ millions, Antwerp thus reaching the third rank among



the great ports of the world, immediately after London and New York. Considerable progress has been accomplished since (29½ million tons in 1922) and, in spite of what has been said to the contrary, the occupation of the Ruhr has not seriously altered the situation.

About seven miles from Antwerp the ship passes between the forts of Lillo and Liefkenshoek, the first sign of the defences so elaborately built by General Brialmont, defences which were supposed to convert the district into an impregnable entrenched camp. A little farther on, on the left hand, a huge lock is being built, communicating with a sea canal four miles in length, connecting Kruisschans with the older shipping establishments. This lock will be

available at every state of the tide and will permit the passage of steamers drawing over 40 feet of water.

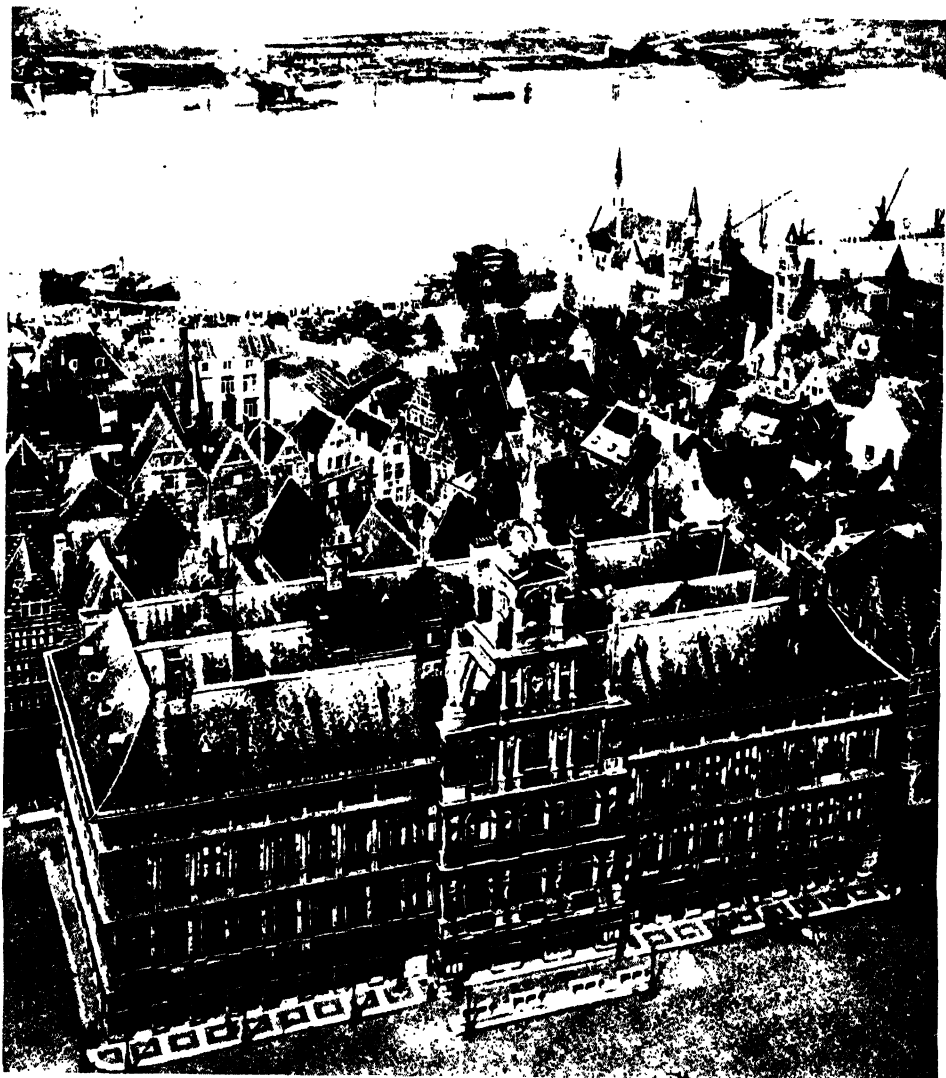
Another bend of the river brings us between the Fort Philippe and the Fort Ste. Marie, one of the last to be silenced by the German heavy guns during the short siege of October, 1914. Farther still, on the left hand, lies Austruweel, where the Kruisschans Canal will connect the new docks with the old; then, on the right hand again, the Fort Isabelle and the Fort de la Tête de Flandre opposite the large embankment bordering the town itself.

A bird's-eye view of the city can be obtained by climbing the tower of the Cathedral. It is the best vantage point from which to appreciate the situation

of Antwerp and of the surrounding country. Straight to the north lie the shining ribbon of the stream and the bright patches of the surrounding docks ; to the west, the rich agricultural district known as the Pays de Waes ; to the east, the moors of the Campine crossed by canals on the banks of which many factories have been built ; towards the south, the uniform plain of Flanders and Brabant, as far as Brussels and Ghent, with its powerful network of

navigable rivers and canals stretching in all directions and bringing to the metropolis the trade of one of the richest regions in Europe.

But there is more in the landscape than meets the eye. A look at the map shows that Antwerp is surrounded, within a distance of 100 to 150 miles, by a series of coal-fields and industrial districts. This rich hinterland starts from Lille, in France, and stretches to the Ruhr and Westphalia, in Germany,



BIRD'S-EYE VIEW OF ANTWERP, LOOKING ACROSS THE SCHELDE

W. H. Smith, Brussels

Antwerp, the second city of Belgium and one of the great world ports, is situated on the right bank of the broad and deep Schelde or Escaut, 55 miles from the sea. Its magnificent harbour and docks have established its pre-eminence as a port of transit ; its churches, museums and masterpieces of painting as a centre of art. In the foreground is the Hôtel de Ville, dating from the 16th century

including Mons, Charleroi, Liège, and the new coal fields of Limburg. French, Belgian, and German waterways converge towards the lower Schelde and will be completed by a canal connecting the Schelde with the Meuse and Rhine.

If we keep these facts in mind, we shall not wonder at the size of the town stretching at our feet, where over 400,000 inhabitants are herded together. On the contrary, it will seem to us that its importance is not yet in proportion with the advantages of its situation.

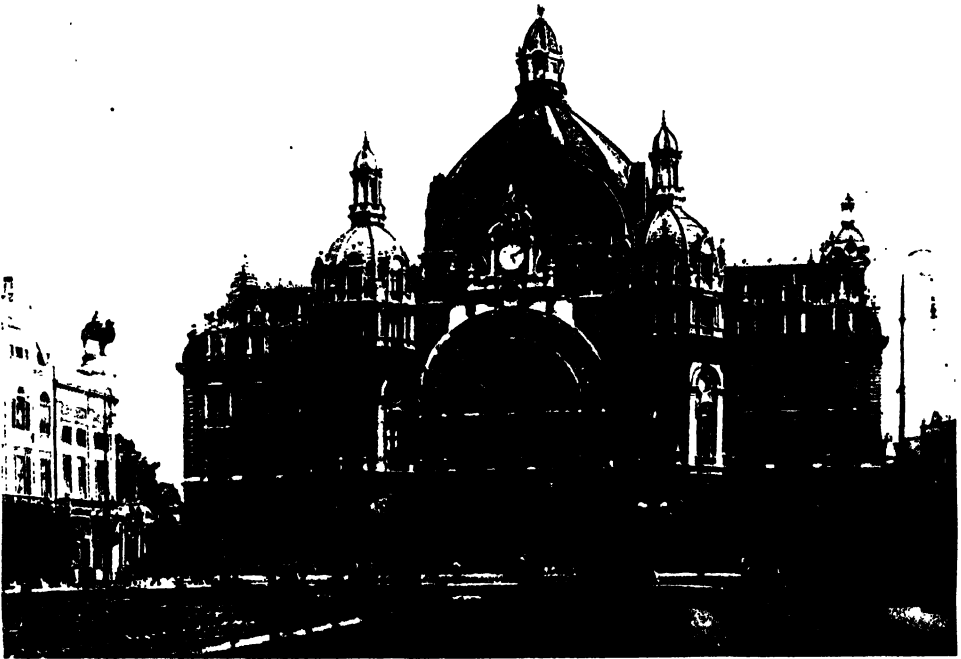
There are two obvious explanations: the repeated checks inflicted on the port's expansion in the course of history, and the fact that the town cannot expand freely owing partly to the restrictions imposed by its defences and partly to the difficulty of connecting both banks of the river.

Antwerp is one of the few ports entirely built on one bank of its waterway. The Schelde is still too wide to be spanned by a bridge and the only means to overcome the difficulty is the

construction of an underground tunnel. This plan is being studied by the Belgian government, and it is assumed that within a few years a suburb of 40,000 inhabitants will spring into existence on the left bank.

If we narrow the circle of our attention to the city itself, we see at once that it is divided into two parts: the new town, beyond the boulevard connecting the Gare du Sud with the docks and including the suburbs of Bergerhout and Berchem, and the old town, presenting a maze of narrow streets and many old buildings closely packed together, between the boulevard and the Schelde.

Traffic is intense, and even in the distance its rumbling noise, increased by the cobblestones, can be plainly heard. People swarm in every direction, and we need not mix with them to realize the contrast between this historical Flemish city which has been able to recover its past prosperity, and the dead towns of Flanders, such as Bruges, where the spirit of the medieval



Phototypie Belge

BEFORE THE ENTRANCE TO THE CENTRAL STATION OF ANTWERP

Antwerp's Central Station, a handsome modern iron structure, lies at the east end of the Avenue de Keyzer, off the spacious Place de la Gare, and has main lines to Brussels, Holland and Germany. Adjoining it is the Zoological Garden, one of the best in Europe and over the entrance gate of which stands a finely sculptured bronze camel with Hindu driver

Commune is only preserved in some architectural masterpieces.

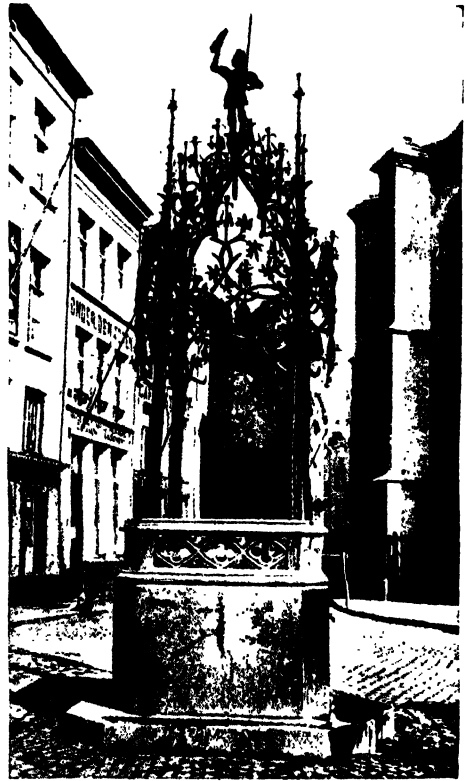
A few hours before his accidental death in Rouen, in 1916, Emile Verhaeren, the greatest representative of modern Belgian literature, was explaining to a French audience the contrast between the Flanders of the Middle Ages, which has not survived the ruin of the cloth industry, and the Flanders of the Renaissance which, after an almost complete eclipse, revived in such a wonderful way in the nineteenth century, thanks to the commercial freedom of the Schelde.

Verhaeren showed that Bruges and Antwerp are the two opposite poles of the Belgian temperament; Bruges, the city of dreams, silence and mystery, with its deserted narrow streets overgrown with grass and its canals haunted only by a few gliding swans; Antwerp, the city of noise and bustle, surrounded with modern quarters and large docks, congested with ships coming from every corner of the earth.

The Belgian school of painting illustrates admirably these conflicting tendencies of the race. The brothers Van Eyck and Memling painted in Bruges in the fifteenth century; Rubens, Van Dyck, Jordaens, and Teniers painted in Antwerp in the seventeenth.

Antwerp owes little to the Middle Ages. The tower of the Cathedral was finished in the sixteenth century, in a purely Renaissance style, and the great nave itself was only completed about the same time. Like English cathedrals, it is almost entirely deprived of sculptures, owing to the destruction wrought by the iconoclasts who inaugurated the revolution against Spain and the religious wars of the sixteenth century, with their "Spanish fury" and "French fury" and endless riots and devastation.

The town, which the Florentine, Luigi Guicciardini, described in 1550 as "an excellent and famous city, full of beautiful, agreeable and spacious houses, well kept, well ordered and furnished," and whose gaily clothed



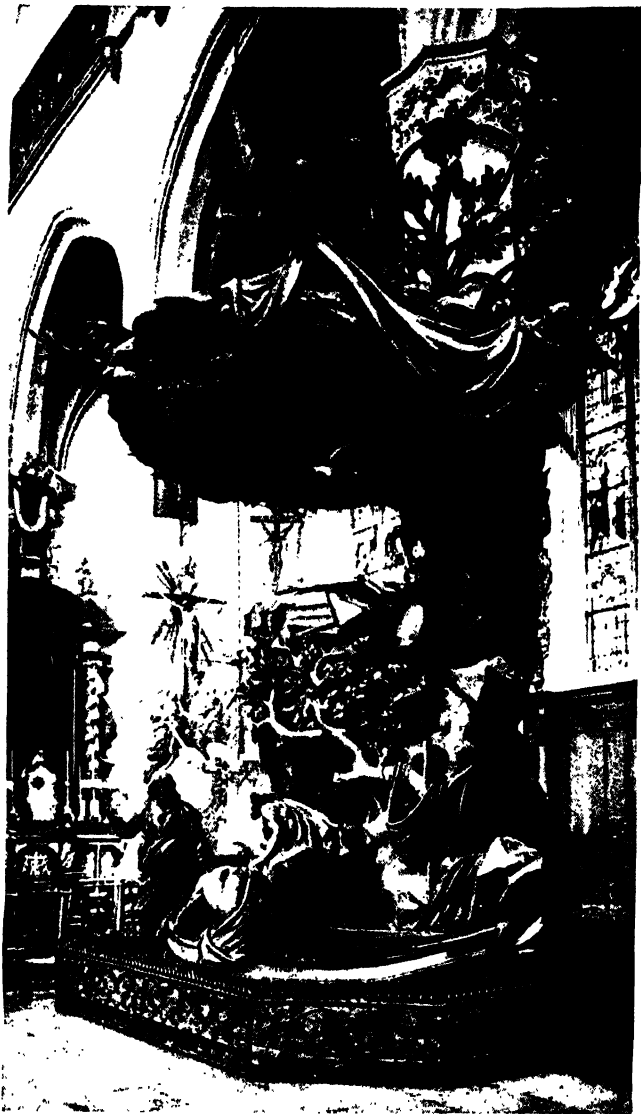
IRON-CANOPIED STONE WELL

Traditionally ascribed to Quinten Massys, "at one time blacksmith, afterwards a famous painter," this well, surmounted by a Gothic canopy with a statue of the mythical hero, Salvius Brabo, stands in the Marché aux Gants, near Antwerp Cathedral.

inhabitants lived such a happy and prosperous life, had already lost its trade when Rubens began to paint. The last foreign traders had left and the Exchange, which had been for a time the most important financial market of the world, had been converted into a public library.

The Cathedral was begun before the crisis. So indeed was the Hôtel de Ville, finished in 1561, which we find a few steps farther, facing the Grand' Place. But almost every monument which attracts the visitor was built during the period of decadence. The same remark applies to Venice, whose art only reached its climax after its period of economic splendour had passed.

The powerful personality of Rubens appears everywhere: in the Cathedral, with the celebrated "Descent from the



W. H. Smith, Brussels

VIGOROUS CARVING OF AN ANTWERP PULPIT

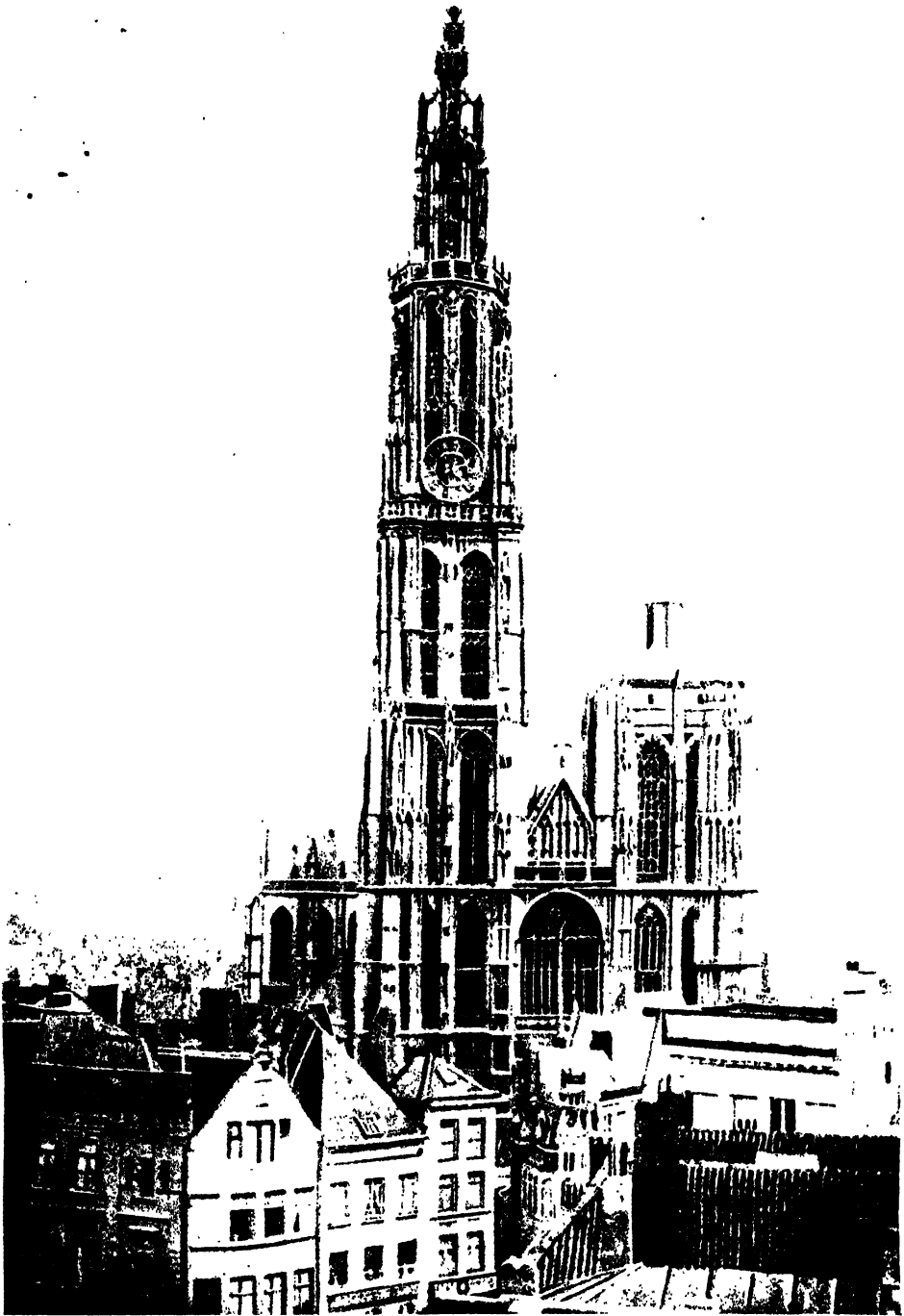
The principal feature of S. Andrew's Church, late-Gothic edifice consecrated about 1529, is the elaborately carved wooden pulpit of the eighteenth century, representing SS. Peter and Andrew in a boat about to respond to the summons of the Saviour

Cross"; in the Royal Museum with the no less striking "Spear-Thrust"; in the churches, such as that of S. Carlo Borromeo which he is supposed to have designed; in the house in the Rue Rubens in which he spent most of his life; in the chapel which bears his name; in the choir of S. Jacques, where he is buried with his family. If ever a man typified his country and his time, that

man was Rubens, painter and diplomatist, favourite of the Archduke Albert and Isabella, great propagandist of the Counter-Reformation so actively promoted by the Jesuits who, with his help, were laying the foundations of modern Belgian Catholicism.

The reaction against the sober and stern Calvinism which prevailed in Flanders for a short time is plainly apparent in every feature of social life. It is felt throughout the fine seventeenth century mansion which has been preserved as the Plantin Museum. Though a master printer, Christopher Plantin was well looked upon by the Spanish governors and obtained, in 1570, the monopoly for printing liturgical books. The house itself was partly built in the sixteenth century, but most of the furniture and pictures belong to the Counter-Reformation. We realize from them the accuracy of Guicciardini's description, and the comfort and refinement enjoyed by these rich Flemish bourgeois who were able to decorate their houses with the masterpieces of their time.

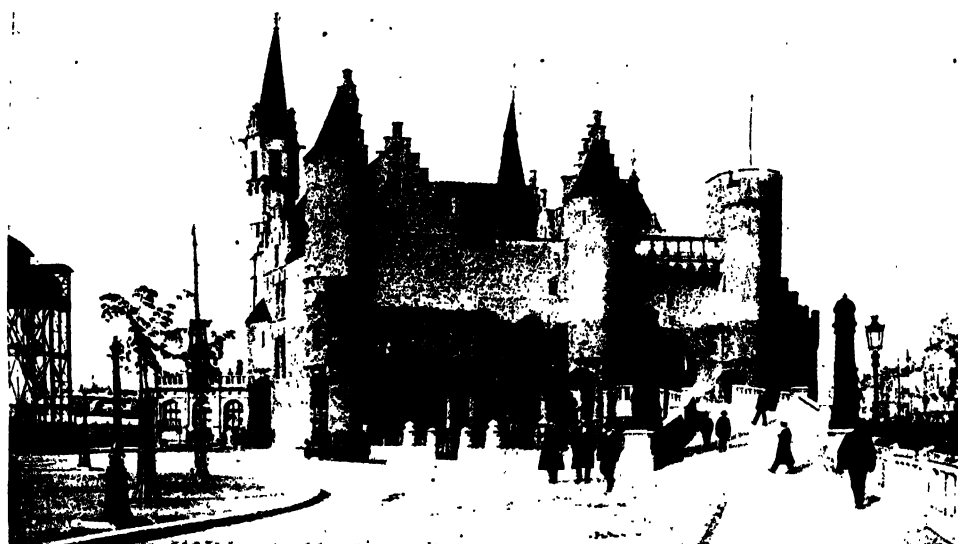
The same spirit is still more apparent in the florid Renaissance architecture of the Corporation houses in the Grand' Place and of most other public buildings. The rococo churches, with their heavy ornaments and over-loaded façades, give us some striking features of the exaggeration of this style. On the other hand, Rubens's sacred pictures, which frequently adorn the interior of these



Belgian State Railways

ANTWERP'S GREAT CATHEDRAL, THE LARGEST GOTHIC CHURCH IN BELGIUM

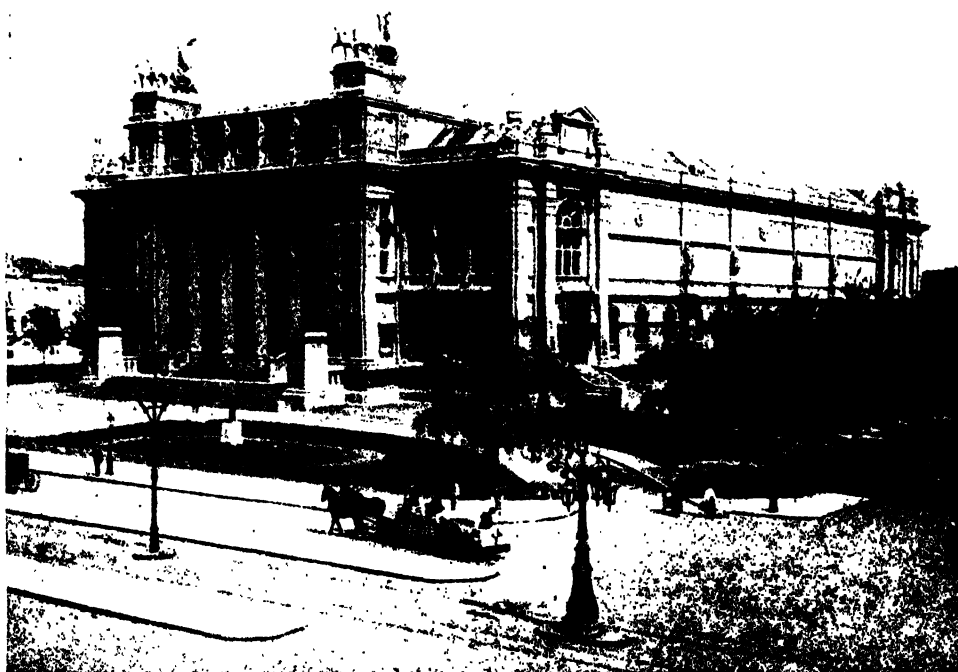
Towering above the small houses which cluster thickly about it, Antwerp's famous old Gothic Cathedral of Notre Dame, with its 470 foot spire, forms a conspicuous landmark. The building operations, begun in 1352, came under the direction of successive architects, but were not completed until the sixteenth century. The Cathedral was despoiled of many of its treasures during the religious wars.



W. H. Smith, Brussels

FROM PRISON TO MUSEUM: HOARY RELIC OF ANTWERP'S EARLY DAYS

As ancient as Antwerp itself is the Steen, a turreted castle standing on the quay. The building has undergone more than one restoration, but the dungeons at least are as old as the tenth century and bear sombre witness to its early history. It now contains the Museum of Antiquities and a remarkable collection of historic objects and curiosities, including instruments of torture used by the Inquisition



B. N. A.

ROYAL MUSEUM OF FINE ARTS, ANTWERP

Erected in 1879-90, the handsome building of the Royal Museum contains paintings by the old masters, including the Rubens and Van Dyck collections, many beautiful sculptures and works by modern painters. The building itself is in the Italian Renaissance style; the portico, overlooking the Place Léopold de Wael, is supported by four giant Corinthian columns and flanked by loggie on the upper storey

churches, provide excellent examples of the best productions of a period in which, for many, religion had become intimately associated with a pageantry of colour and movement. It would be unfair to judge these works by our modern standard. They are bound to appear to us too sensuous and theatrical, but this feeling ought not to blind us to the splendour of colouring and to the dramatic majesty of the whole.

We must become permeated with the atmosphere of the period and show ourselves as indulgent toward the Flemish exaggerations of Rubens, of Jordaens and of Teniers, as we do towards the verbal exaggerations of Marlowe, Beaumont and Fletcher, and even of Shakespeare in his early plays.

Grim Legend of the Severed Hands

A mere glance at the collection of modern paintings in the Royal Museum of Fine Arts will show that the love of bright colouring and energetic action is still strongly alive in Belgian art. A visit to the Salle Leys, in the Hôtel de Ville, will confirm us in this belief, and we will soon realize the important part played by the Antwerp School in the art of the country, especially as regards historical painting.

Though a native of Brussels, the modern sculptor J. Lambeaux was specially appreciated in Antwerp and erected in the Grand' Place a remarkable fountain, in which the influence of Rubens can be plainly traced. It illustrates the legendary feat of Salvius Brabo, the first duke of Brabant, supposed to be a relative of Julius Cæsar.

At that time the Schelde was held by a giant, Druon Antigonus, who exacted a tribute from any mariner going upstream. When the sailors were unable or indicated that they were unwilling to pay, Antigonus punished them by cutting off their right hands.

Hence the severed hands still preserved in the city arms. Like a modern David, Brabo succeeded in defeating Antigonus and, as a reprisal, threw his hand into the Schelde. It is said that the legend may have originated in the name of the town (*Hand-werpen*, to throw a hand), but needless to say, modern etymologists do not endorse such an explanation.

Struggle Against Exploitation

Whatever the facts may be, the story is worth recording, for it illustrates the struggle which, from the very origin of the town, the defenders of liberty had to wage against those who exploited its exceptional position in order to exact undue advantages.

It was not only owing to its geographical situation that Antwerp succeeded in taking the place of Bruges as the trade metropolis of Europe in the sixteenth century. It was mainly on account of the policy adopted by the dukes of Brabant who liberated trade from the many shackles imposed upon it by the medieval cities and opened wide the port's gates to foreigners.

The Freedom of the Schelde

For more than two centuries, when these gates were closed by the Dutch, the Belgians never tired in their efforts to find an outlet to the sea and the full freedom of the Schelde still remains for them the cardinal point of their foreign policy. They know only too well that without a free Antwerp, their economic life would be stifled and their independence jeopardised.

Other towns play a most important part in Belgian life. Intellectual activity is seated in Brussels, industrial activity in Liège, Charleroi and Mons. But all these centres depend on the only outlet which the country possesses on the sea and which brings her into contact with the whole world—the port and metropolis of Antwerp.



Lord Headley

PILGRIM CARAVAN WITH ITS LONG TRAIN OF CAMELS ON THE WAY TO ARAFAT

Of the two files of camels, one carries the food and baggage while the other bears the pilgrims themselves. Arafat is a hill, about two hundred feet high, some thirteen miles east of Mecca. The pilgrims ride in "shagdufs," which correspond roughly to the "howdahs" carried by elephants, and consist of carpets or curtains stretched over a framework to keep off the sun. This photograph and those on pages 225-7, 230, 231 and 240 were taken by Lord Headley, President of the British Muslim Society, on his official visit to Mecca in 1923. He was the first Englishman to visit the Holy City openly

ARABIA

Its Deserts, Oases and Holy Cities

by Rosita Forbes

Author of "The Secret of the Sahara-Kufara," etc.

IT is probable that, from very early times, Arabistan, the "Island of the Arabs," was known, by reputation at least, to the West. It has been discovered, forgotten and rediscovered several times during the world's history. The earliest Hebrews of the Mediterranean knew something of Arabia. Herodotus learned from the Phoenicians that they came originally from the Persian Gulf.

Egypt gave the name of Punt to the land of spices in south-west Arabia, and it was in search of that incense country, the legendary Arabia Felix, that Aelius Gallus led an expedition by way of the present Nejran. It is probable that in Mariaba he reached Marib, the capital of ancient Sabaea, whose kingdom succeeded the Minaean and preceded the Himyaritic dynasties in south Arabia. The Roman general was guided by envoys of the Nabataean envoy, whose capital was the Edomite Selah, afterwards Petra.

Petra, the Hidden Valley City

Few Europeans have visited the ruins of south Yemen and Nejran, but Halévy and Glaser have described the famous dam at Marib, the bursting of which caused one of the earliest great migrations towards the north and east, and Glaser was able to make copies of some hundred Himyaritic inscriptions.

It is possible that the Nabataeans came originally from Sabaea, but history first speaks of them as the caravan traders of Arabia Petraea, with a secret city hewn out of the rocks, and so guarded by nature as to be impregnable. It fell at last, not before the arms of Rome, but before her civilization, and among the austere Arab tombs are

scattered ornate monuments of Graeco-Roman architecture.

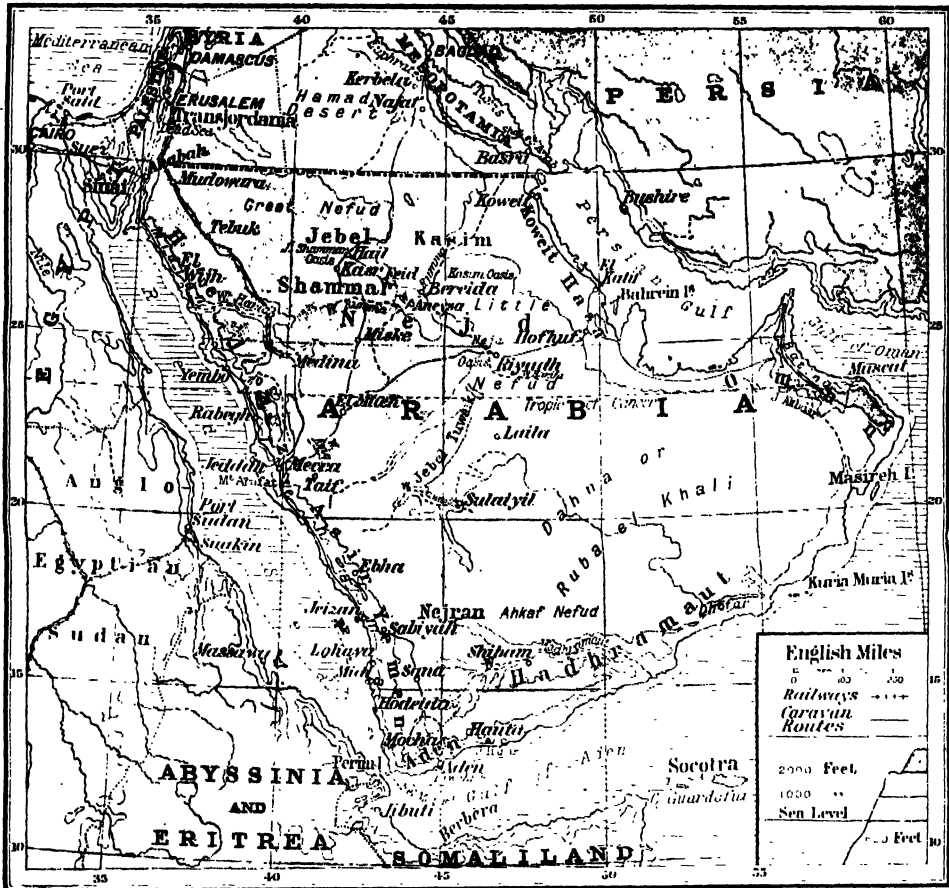
There is a Roman theatre and there are many-chambered monuments that show traces of different influences. On the floor of the valley (Wadi Musa) below the labyrinthine city of the dead, are the ruins of what was once a large town, the centre of the merchant routes to Yemen, Egypt and Persia.

The Tilted Shelf of Arabia

So little is left but the "House of Pharaoh's Daughter," that it has been suggested the destruction of Petra was due to some great natural cataclysm rather than to the gradual shifting of trade centres which drove the Nabataean merchants to Palmyra and other markets.

If this is true, the annihilation of the valley city left intact the honeycomb of mountain tombs and the mile-long entrance cleft between walls of coloured sandstone, hundreds of feet high and sometimes only six feet apart. Petra was rediscovered by Burckhardt early in the nineteenth century, and from both its natural beauty and its architectural and archaeological interest, it must rank as the most remarkable known ruin in Arabia.

The Arabian peninsula may be regarded as a shelf tipped gently towards the east. Its greatest length is some 1,200 miles and its average breadth 700 miles. As the slope towards the Red Sea is steeper and shorter than the gradual fall to the Persian Gulf, the highest level is in the west where it is probable that the original level was considerably higher still. In Yemen some peaks reach an altitude of 10,000 feet and the central district of Nejd has an elevation of



DESERTS, OASES AND UPLANDS OF THE GREAT ARABIAN PENINSULA

2,500 feet with outstanding masses rising to nearly double that height.

The general eastward decline is only broken by Jebel Tuwaik, a plateau faced by a cliff, which curves through the east centre; and by the rocks of Oman, which, in Jebel Akhdar, rival the peaks of Yemen and Midian.

Since Mesopotamia, Syria and Palestine are excluded from the scope of this chapter, there are no perennial rivers to note in Arabia. In Yemen, Asir and Hejaz, in Hasa, Oman, Nejd and the Aden Protectorate, there are wadis (valleys) which are sometimes flooded by rain-storms and which, at certain seasons of the year, have the appearance of running streams. Generally, these wadis show very little depression, and those rising east of the western watershed are

particularly shallow. The most important are Wadi Rumma, running from Medina to the Shat-el-Arab, which falls 6,000 feet in less than 1,000 miles; and the Wadi Hanifa between Tuwaik and the Persian Gulf. These provide the main lines of communication with the interior, for water is found at varying depths beneath their surface and this, when it rises to ground level, produces groups of oases. The wadis which find an outlet in the Red Sea show much deeper beds at their sources in the hills, and sometimes their banks form an obstacle rather than a help to passage. As they reach the Tehama, the flat belt which borders the Red Sea from Aden nearly to the stony lands of Sinai, they widen into depressions which are almost invisible at their mouths.

The chief features of Arabia are the deserts, which are as various as the mountains and valleys of other more fortunate countries. The most extensive of these deserts is the Dahna, or Ruba el Khali, which is a hard, barren plain, covered with fine gravel, but often carrying water at a considerable depth below the surface.

The Nefuds are belts of deep sand blown by the wind into waves and round backed dunes. Here are found the curious horseshoe-shaped pits described at length by the Blunts. The Nefud sands may be of granite, sandstone, or limestone, and the amount of pasture they offer depends on their consistency. The northern Nefud forms a land of enchantment in spring, offering a quantity of different herbs for the immense flocks which pasture there.

In the southern desert, the famous "empty quarter," the Dahna, where there are no wells and a caravan must subsist during a month's journey on camel's milk, the Nefud has no vegetation.

The Ahkaf is a heavier Nefud, and the only known tract lies in the south-west on the edge of the empty quarter.

The Harrah is the worst of Arabian deserts, for, though it is generally only found in patches, it is very hard for the legs of pack-animals, and the heat reflected from its sterile lava tracts is intense. Deserts of one kind or another encircle Nejd and, in certain places, stretch down to within sight of the coast. To the north lies the Nefud extending to Midian, but leaving a passage for the ancient pilgrim road to Medina and Mecca, now followed by the Hejaz railway, which runs from Damascus and Beirut to Medina.

To the east is the Little Nefud, which runs south-east to join the great southern desert, never crossed by a European, and possibly not even by an Arab on its centre line.

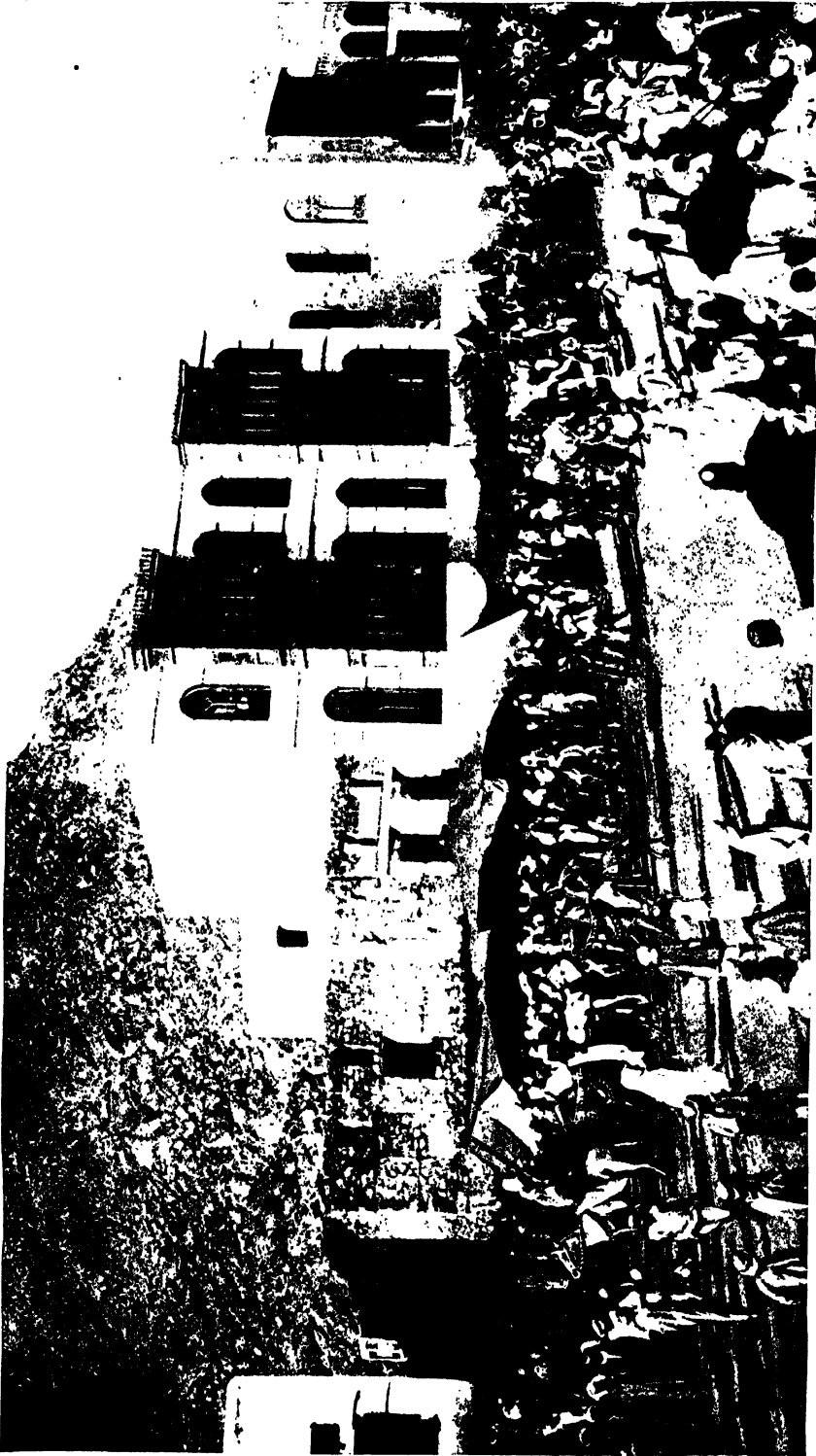
Westwards the circle is broken by intervals of steppe which afford passage to caravans through depressions in the western hills. Within the circle lie the



Lord Headley

WITHIN THE WALLS OF THE MOST SACRED CITY OF THE MOSLEM WORLD

Through the "Way of Saiee," seen on the left, countless devotees pass to observe varied religious ceremonies connected with their pilgrimage. The road to Medina lies on the right, and the police station stands at the angle between the two streets. The beautiful teak and other hard-wood carving that adorns many of the Mecca houses is exemplified in the building to the extreme left



Lord Headley

SOLEMN PROCESSION OF THE KING OF HEJAZ WITH HIS RETINUE TO HOLY MECCA'S SHRINE

Riding on one of the pure bred stallions from his famous royal stable is the King of Hejaz. The white steed may be seen on the right of the photograph, and immediately behind is an attendant bearing the celebrated Golden Umbrella which follows his majesty on occasions of state. In front and behind come horse and foot of the royal bodyguard. Lord Headley, President of the British Muslim Society, took part in this very procession. Mecca lies in the midst of bare, unfertile hills intersected by many winding valleys, and it will be observed that the houses in this street stand in front of a particularly bare and stony hillside



Lord Headley

PILGRIMAGE TO ARAFAT, ISLAM'S "MOUNTAIN OF MERCY"

In Mina, the place of the sacrifices, by Mecca, is to be seen at the time of pilgrimage the most wonderful procession of devotees from all parts of the world passing to or from Arafat. These pilgrims of Islam have come from great distances, often taking many months on the journey, and not seldom have expended all their savings in order to pay respect to the memory of the Prophet

great central oases, Jebel Shammar, Kasim and Nejd.

Jebel Shammar is a plateau 2,300 feet high, sloping from south-west to north east, and its highlands attract sufficient rainfall to ensure cultivation. The population is divided into husbandmen (perhaps 18,000), who own considerable palm groves and grain, and Beduin nomads (about 20,000), who pasture innumerable flocks and herds.

The capital is Hail, and there is an older town called Feid.

Kasim, situated in the south of Jebel Shanimar, is a string of oases, under 100 miles in length, of which the two central townships, Aneysa and Bereida, are the most important commercial centres in central Arabia. The settled population may be 65,000, chiefly of the ancient Tamin tribe and, as Aneysa is the only large oasis on the road between Mecca and Mesopotamia, it enjoys a considerable degree of civilization.

Doughty describes Bereida as "a great clay town built in the waste sand

with enclosing walls and towers . . . beside a bluish dark wood of ethel trees upon high dunes." Kasim exports ghi, dates and cereals, and it used to be famous for its horseflesh, but the breed has declined since the Great War.

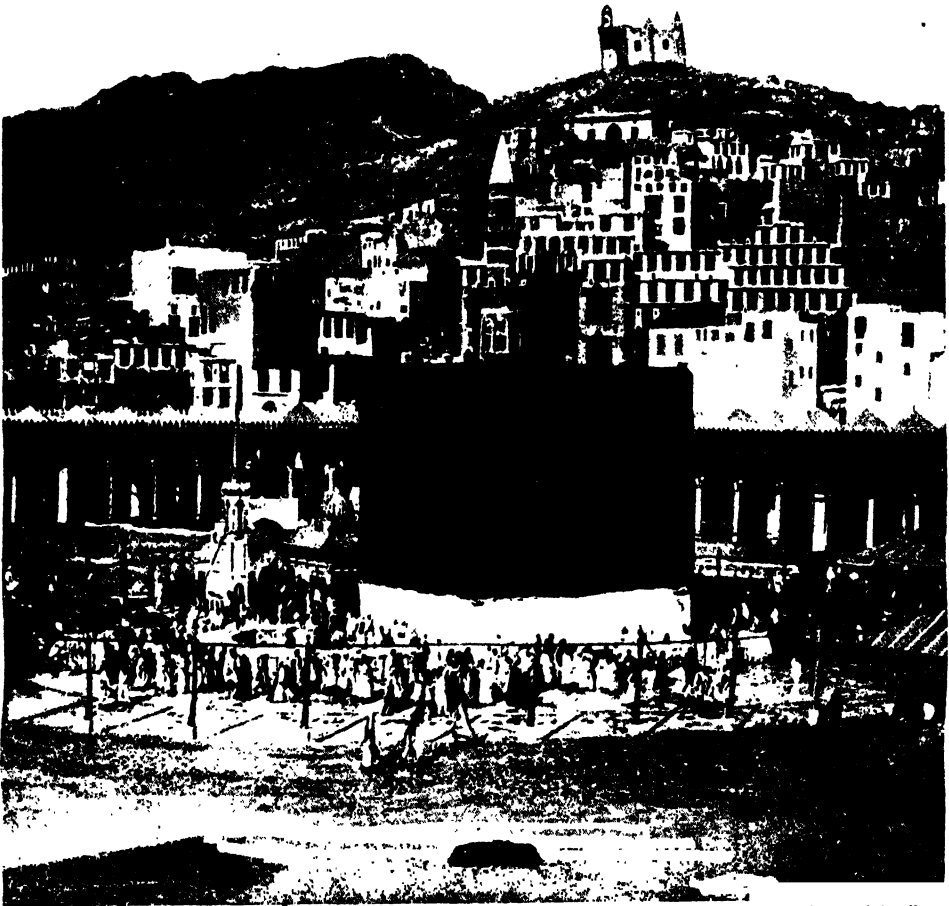
Nejd, in which Kasim is often included, covers about 10,000 square miles, and consists of a line of oases upon and under the plateau of Jebel Tuwaik. The chief town, Riyadh, was the seat of Ibn Saud's sultanate and the capital of Wahabism.

Nejd may be divided into three parts: the northern valley, the central region consisting of a chalky broken plateau (Jebel Tuwaik) looking down on to a sandy plain, and the south-western wadi of Dawasir, only explored by St. John Philby. The whole region is intermittently fertile, and the population has been estimated at a quarter of a million. Riyadh is built of sun-dried clay, with flat roofs laid on tamarisk branches, supported by palm beams, and the huge palace here is probably the

finest structure of this kind in the world. The whole Nejd group has Dahna east and south of it, Nefud and steppe on the north and steppe on the west, the last broken by several fertile valleys descending by way of Wadi Dawasir to the south-west. The other fertile regions form an uneven ring outside these central districts.

On the east this ring is thin and irregular. From Koweit to El Katif shore and interior are continuous steppe. Hasa consists of an isolated chain of oases, after which there are only a few small cultivable patches in the wadi

mouths until Oman is reached. Here the fertility of Batina is due to periodic rains and the drainage from the inland mountains which also enriches the valleys to the north. Desert reigns until Wadi Hadhramaut is passed, after which the coast becomes intermittently fertile, and the valleys running down from the Upper Hadhramaut basin are rich in vegetation. Still farther west, we come to the upper edge of the tilted shelf which is Arabia. A sharp drop of some 1,000 feet divides the shore belt from the plateaux. The character of the country is here more sharply defined, for



Edmund Candler

DEVOTEES MAKING THE SEVEN-FOLD CIRCUIT OF THE KAABA

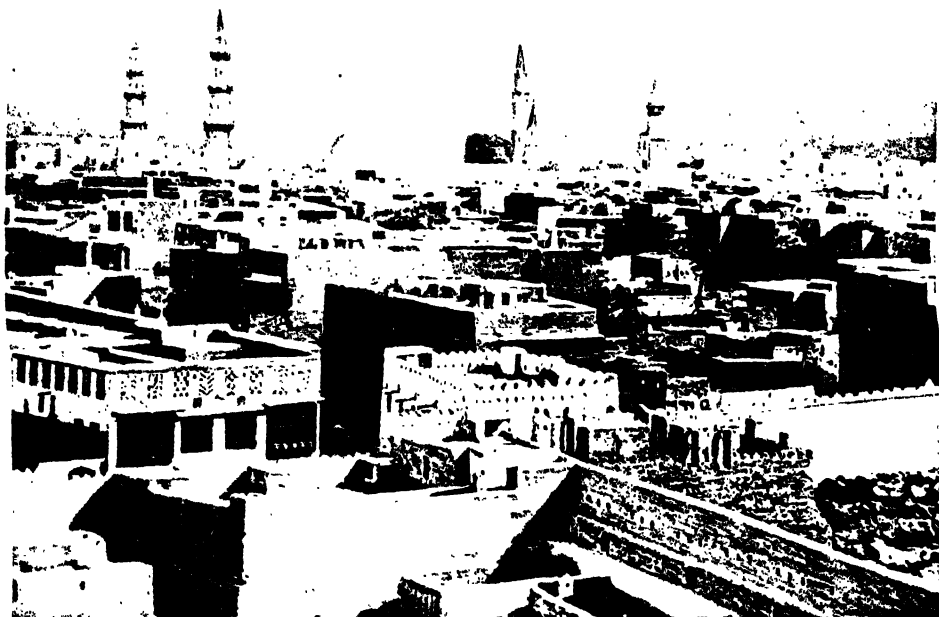
Many of the houses in Mecca are stone built and make an imposing sight as they rise, tier on tier, behind the Great Mosque of El Haram (sanctuary), which holds the Kaaba, the most sacred shrine of Islam. The pilgrims are performing the ceremony of walking round the Kaaba where it stands draped in its black carpet. This they do on the first seven days of the Hadj or pilgrimage

the Tehama is a desert of varying degrees of barrenness, and it is backed by a towering range, fertile even on its ridges.

Sana, the capital of Yemen, where coffee, roses, almonds, wheat and bananas are grown, is at an altitude

volcanic system of Midian raises the north-west corner of the sloping shelf to a final elevation.

The climate of Arabia is not unfavourable to human existence, except in some portions of the coast, where the damp heat of summer is almost



OVERLOOKING MEDINA, SECOND ONLY TO MECCA IN SANCTITY

Medina, the old capital of the Mahomedan Empire, lying some 240 miles north-west of Mecca, is celebrated as the refuge of Mahomet and the place where he died and was buried, and is often designated "the City of the Prophet." His tomb, beneath a conspicuous pointed dome, is found in the enclosure of the magnificent Great Mosque—the chief feature of the city

of 7,500 feet. Behind this ancient country, the edge of the old Sabaeen kingdom, where Balkis ruled Sheba, the land degenerates into the desert of the unknown Ruba el Khali—"the terrible emptiness."

In north Yemen and Asir the mountains rise sheer out of the Tehama, often in the form of a cliff, but farther north, in Hejaz, they are divided from the plain by a series of foothills. Beyond Mecca the monsoons cease to discharge and the level of the high ground drops 2,000 feet in some 300 miles.

Between the holy cities of Hejaz, which, with Taif, form considerable oases, are spare stretches of arable ground, but the coastline to the north becomes more and more barren till the

intolerable. In the interior extreme dryness mitigates the noon heat and ensures a degree of coolness at night. Very few germs can live in such conditions, so on the northern Nefuds and steppes duration of life is long. In the more barren deserts exhaustion comes early to those Beduins who try to eke out their existence on a minimum of food. In the hill country the daily range of temperature is so great that it impairs the health value of the heights. Yemen profits most by the autumn monsoon. Oman has sufficient intermittent rains, and, along the edge of the western watershed, heavy storms occur occasionally during the summer.

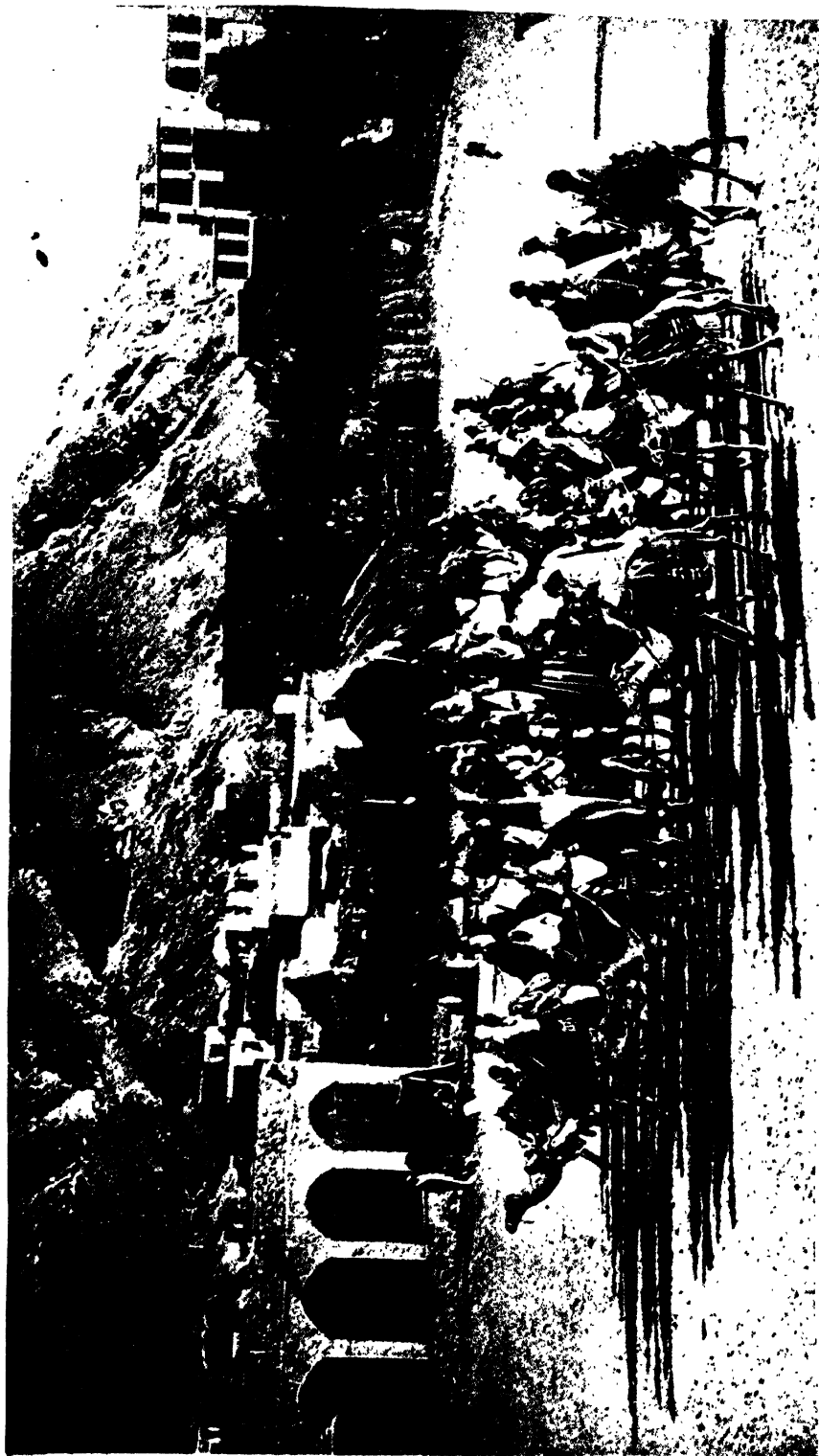
The most favoured inland region is Jebel Shammar, which receives spring



Lord Headley

ARAB FRUIT-SELLERS AT YEMBO, THE SHELTERED HARBOUR OF THE HEJAZ

At many ports in the East the traveller may encounter a mob of natives which collects as soon as a visiting steamer is sighted to sell dates and melons to the ship-bound passengers. These enterprising salesmen know that fresh fruit is very welcome in the close heat of the Red Sea, and ask double the value of their goods while the noise of haggling fills the air. Most of the coastwise vessels touch at Yembo either to take in stores or discharge their cargo of pilgrims on the way to Mecca. This port is one of the most important in the Hejaz, and lies some 130 miles south-west of Medina



SQUADRON OF THE BEDUIN CAMEL CORPS IN FULL ARRAY

Lord Headley

These desert warriors present a formidable appearance, armed as they are to the teeth with spears, pistols, rifles and scimitars. Their camels are not, by any means, the ordinary beasts of burden, but are particularly fast-trotting animals capable of holding their own with the best horses over long distances on the level sandy plains of the great Arabian desert, though traversing the rugged highlands they would be easily beaten by the nimble, sure-footed donkeys bred by the native inhabitants of this bare, uninviting land



Raeita Forbes

TOMB-PIERCED CLIFFS OF ROSEATE SANDSTONE THAT ENCLOSED PETRA, THE HIDDEN CITY

Where, within this secret circle of red rock amid the deserts of Arabia, stood street and palace and temple, are now only the remains of tombs and shrines cut in the rock and an uneven space covered sparsely with white broom and the fleshy foliage of squills. To the right can be seen all that remains of the great theatre with its thirty-three tiers of seats which held an audience of three thousand. Above gape the rock graves of the ancient people, predecessors of the Nabataeans, who first discovered the defensive possibilities of this hidden fastness



Ronita Forbes

ONE OF MANY ROCK-HEWN TEMPLES WHERE PETRA'S PEOPLE WORSHIPPED

As Petra, the hidden city, grew more and more prosperous with the receipts from its control of the trade between East and West, so the number of excavations grew. Tomb and temple with pillars exquisitely carved from jagged cliffs of sandstone appeared in varying architectural styles. The one seen above has an inner and outer chamber, and was found to contain a Byzantine cross.



Ronita Forbes

AT THE ENTRANCE OF THE GLOOMY PASSAGE THAT LEADS TO PETRA

After a long and thirsty journey over the uneven surface of the desert the traveller comes to a break in the wall of crimson stone that bars his way. Going down the gorge which the ancients thought to have been made by Moses when he smote the rock for water, the blazing sky fades to a dunness, and a man may touch both walls at once, so narrow is this secret cleft.



ROBITA FORBES

ROMAN TOMBS CUT IN SANDSTONE WEATHERED BY CENTURIES

Hundreds of rock tombs cut in the sides of the surrounding cliffs of red sandstone are almost the only remaining vestiges of all the great city of Petra. Various architectural styles—Egyptian, Assyrian, Persian and Graeco-Roman—roughly indicate the chronological extent of Petra's prosperity. This depended on a picaresque control of the trade routes and languished under the orderly rule of Rome

rains from the Mediterranean, and produces regular vegetation. Here the annual rainfall is only little less than that of Lower Egypt, but the precipitation diminishes rapidly towards the central districts where the almost negative record of Upper Egypt is the rule. The southern desert probably receives a mild shower only once in several years.

Heat, of course, is the main feature of the Arabian climate, and the southern region of the peninsula is within the zone of maximum July-August temperature. The hottest regions are the coasts of Yemen and Oman. Snow appears on the high crests of Jebel Shammar in winter, and the Yemen and Asir highlands experience severe frosts.

Mean
Temperature

	Jan.	June
Jeddah	72.1 F.	85.1 F.
Sana	56.8 F.	71.1 F.
Basra	51.8 F.	87.3 F.

Maximum
Temperature

	Jan.	June
Jeddah	91.2 F.	115.2 F.
Sana	85.3 F.	89.2 F.
Basra	80.1 F.	111.4 F.

The population of Arabia can only be guessed at. It may be something between 6,000,000 and 8,000,000, and as a rough division, 3,000,000 might be allowed to the whole Red Sea coast, more than half of that number pertaining to Asir and Yemen; 1,500,000 to the southern and Gulf districts, of which Oman would have a third; under 1,000,000 to all the central settled districts; and possibly 1,000,000 to the central nomads.

The physical conditions of Arabia constrain the majority of the tribesmen

to a nomad life because it is almost impossible, except, perhaps, in Yemen, to increase the food-producing area. "Emigration constantly takes place and makes Arabia a cause of danger and unrest to her neighbours. The birth-rate is high, so the surplus population usually remains for some time within the peninsula, gradually accumulating and tending to form new nomadic groups which try to establish rights to wells and pasturage already occupied. At last the action of some tribe, or



Rosita Forbes

SANDSTONE GORGE OF THE WADI MUSA

High up the rough red sides of the cliffs are tombs cut in the rock. The gorge, through which a perennial stream once flowed, is about eight hundred feet deep, and, in places, so narrow that fifty might hold it against an army.



Rosta Forbes

FLAT-ROOFED HOUSES OF ES-SALT STANDING HIGH ON THE HILLS THAT LOOK WEST TOWARDS JORDAN

Peopled with inhabitants two-thirds of whom are Moslems, Es-Salt, the second largest town of Trans-Jordania, is the chief town of the division of Belka. It stands twenty miles north-east of the Dead Sea at a height of 2,740 feet in the mountains beneath whose eastern slopes lies the desert, and, though not touched by the railway, has a fairly considerable commercial importance. Quantities of raisins are grown here, and the town has a certain repute for the wine which it produces. The division of Belka lies in the province of Gilead and is the ancient land of the tribe of Reuben.



AS A BIRD WOULD SEE THE HOUSES AND ROCKY HARBOUR OF LOHAIA Donald McLeish

Viewed thus from an aeroplane, Lohaia is seen to stand upon a low, sandy point jutting into the Red Sea some 130 miles west-north-west of Sana, the capital of the imamate or principality of Yemen. Lohaia is one of the chief ports of this province. The principal trade is in coffee, which is grown mainly on the western slopes of the Jibal hills

sheer want, forces them out, with all their predatory habits and defective experience of settled life, towards the borders of Egypt, Syria, or Mesopotamia. In historic times the settlement of the north-west African littoral by Arabs is known to have been due to a forcible expulsion of surplus population from the peninsula, carried out by certain of the stronger tribes. The overflow of the Shammar into Mesopotamia and of the Aneysa tribes into the Hamad are also instances in point."

Arabia is "a land of ancient violence."

In few districts is it possible to secure from the soil more than a meagre existence on the borders of starvation. Agriculture is impossible in three-fourths of the peninsula, and water is to be found only occasionally in deep wells or rare rain-pools. Scanty

and insufficient sources are jealously guarded. Therefore, the primal instinct of the Beduin is suspicion. Every stranger is a potential enemy and, above all things, the Arab is hostile to the unknown.

The "rafiq" system holds good throughout Arabia. A rafiq is a guide derived from each tribe through whose range the traveller must pass. The efficacy of the system is based on the recognition that a particular range (dirah) belongs to each tribe and the rafiq must be a man of importance who will be recognized as responsible for the safety of his companions.

A raid is a youth's chance of winning fame. The great chiefs have an annual season for raiding. The farther they go the greater glory they acquire. Raiding parties travel light, without women,



ROSLIE FORBES

HEAVY GOING FOR MAN AND BEAST ON THE STONY ROAD FROM MAAN TO THE WADI MUSA

Arabia Petraea is the name given by the Romans to the stony stretch of desert land comprising the northern Hejaz ; here the traveller is surrounded by its granite and sandstone hills midway on the route from Maan to the Wadi Musa—the "Gorge of Moses",—that narrow and precipitous defile giving access to Petra. The cavalcade picking its way along the rough caravan route consists of a camel, tireless and invaluable beast of burden on the level, and some of the sure-footed Arabian mules that can negotiate the most dillicuit hill slopes



ENCAMPED AMONG THE BAREN SOLITUDES OF ARABIA PETRAEA

Maan, a stopping-place on the Hejaz railway, is of importance as being the station where one alights in order to reach Petra. This photograph of the country surrounding it shows that Arabia Petraea—stony Arabia—is no idle name for the district; great barren hills and plains stretch on all sides, cumbered with stones and boulders between which grows the sparsest of vegetation. Amid this desolation are pitched the tents of some Sherit—the name shared by a noble class that derives its descent from Mahomet through his daughter Fatima.



Rosita Forbes

RELICS OF ROMAN CULTURE IN THE OASIS-LIKE DESERT TOWN OF JUF

Lying full in the centre of the great desert that occupies the hinterland of Syria beyond Jordan, Juf is scarcely more than a village, but here dwells the most important community of the district. "Desert" must be understood in the sense of a region where the barren predominate over the fertile areas; very few of the world's deserts resemble the popular idea of a level sandy waste. Indeed, the country abounds in relics of Roman civilization—note in this photograph the Roman theatre and the columns still standing with their architrave intact

mounted on fast, well-bred camels, and the rafiq is powerless against them. When they swoop down on a caravan submission is the best policy, for it will save the traveller's life, though not his property, and entails, by desert custom, no slur on his courage. Arab protection is supposed to extend to anyone who has eaten his food, but, strictly speaking, the safeguard ends on the third day, when all that has been

which mention has been made, organize the caravan traffic of central Arabia, and the Holy Cities are cosmopolitan resorts, living on their visitors and pilgrims.

Medina and Mecca are forbidden to non-Mahomedans, but many Europeans have succeeded in visiting the latter city in disguise. Spouck-Hurgronje lived in Mecca for five months in the character of a learned Moslem



Rosita Forberg

ANEYSA, A CARAVAN CENTRE IN THE ARABIAN DESERT

Aneyisa, in the independent emirate of Nejd, is the centre of several important caravan routes, and as one of the chief commercial towns of central Arabia has intercourse with many large cities of the East. It is renowned as the birthplace of Abdul Wahab, founder of the Wahabis, a Mahomedan sect, and, together with other central highland districts, is famous for its fine horses

eaten on the first is said to have passed out of the body.

Settled communities in Arabia are affected in various degrees by the nomad society surrounding them, though often the townsfolk regard the Beduins as savages, while dependent on them for food and transport. The land is owned by the tribes, unless a merchant has bought his own urban property and possibly given a daughter to the tribal sheikh to secure surety of tenure.

The towns of Arabia are chiefly overgrown villages on which the other hamlets of the district depend. They are usually unproductive and are merely a distributing centre for the neighbourhood. The Kasim towns, of

doctor. Italians, such as Varthema and Fuiati; Germans, such as Wild and Von Maltzan; Englishmen, such as Pitts, Burton, Keane, Wavell, and Headley; a Swiss, the famous Burckhardt; a Spaniard, Badia; a Swede, Wallin; Frenchmen, such as Courtellement and Roches--- have seen Mecca. Medina has been visited by at least nine out of this list.

Mecca, the capital of Hejaz, is the birthplace of the Prophet, supposed to have been descended from Ishmael, the son of Abraham, who married a daughter of the ancestor of the Koreish, the rulers of Mecca when Mahomet was born. It lies in a narrow valley which takes the place of the ancient walls. Large suburbs spread to the north of the city and beyond these are the



OVERLOOKING JEDDAH WHERE PILGRIMS GATHER FOR THE LAST STAGE OF THEIR JOURNEY TO MECCA E. N. A.

Jeddah stretches along the Red Sea shore for about a mile. The anchorage is protected by coral reefs which, if they make access dangerous, at least afford some protection to craft moored between them and the shore. There are few facilities for landing either cargo or passengers save the small "sambuks" or open boats manned by Arab longshoremen. The streets are narrow and tortuous, so that to reach an open space is a relief. As a commercial port Jeddah has declined but the pilgrims make up the deficit, for the townspeople rely upon them for most of their yearly income.

camps for Syrian and Egyptian pilgrims. In the lower part of the town is the famous mosque, the House of Allah, containing the sacrosanct Kaaba, where is the black stone supposed to have been placed in position by Ishmael, but probably a relic of the stone worship which originally existed in Arabia. Here also is the sacred well Zem-Zem, whose miraculously discovered source saved the life of Hagar and Ishmael when they were banished to the desert.

The college adjoining the mosque, intended as a lodging for students and teachers, is let out to rich pilgrims, and a poorly-furnished library is maintained for students. Above the mosque a broad stream runs across the valley between the holy hills, Safa and Merwah. This is the chief market and centre of Meccan life, but there are smaller markets roofed over, as in Damascus and Tunis.

Architecture of the Holy Cities

The houses of Mecca are well built, three or four storeys high, with terraced roofs and fine carved wooden lattice-work at the projecting windows. The water supply is entirely derived from Mount Arafat by means of a conduit, for the Zem-Zem water is sacred and believed to cure all ills. Pilgrims buy it to carry away to their own countries where it is a valued gift.

The soil of Mecca is barren, but fruit and vegetables come from Taif, the garden city in the hills where are the summer villas of the rich Meccans. There are no local industries and the population of some 70,000 depends for its livelihood on the annual influx of about 200,000 pilgrims, of which a quarter come from the Dutch East Indies and 20,000 are British Indians.

Medina is a walled town in a large oasis full of palm groves. Its population may be 40,000 and it is very mixed, for there has been much intermarriage with Kurds, Persians and Turks. Medina, the terminus of the Hejaz railway, consists of two parts. The old town is surrounded by a wall and

separated by a broad, open space from the modern town and suburbs, which are guarded by a rampart of mud and coarse bricks. The Prophet's mosque, the Haram, in the former, is hemmed in by narrow lanes and crowded houses, but its principal gate is decorated with marbles, tiles and gilt inscriptions, and its spacious court, with minarets and lofty dome, leads to the supposed graves of Mahomet and his successors, the Caliphs Abu-Bekr and Omar. The tomb of Fatima, and some palms she is said to have planted, are within the same precincts.

Agricultural Wealth of Medina

The houses of Medina are substantial, built of granite and lava blocks, cemented with lime, and some of them are four or five storeys high, but the streets, though clean, are dark and scarcely wider than paths. Unlike Mecca, Medina has always been an agricultural city. It is surrounded, except to the west, by fields and palms, and good water can be obtained in the oasis, though it is often brackish. One hundred and thirty different kinds of dates are grown, also vines, peaches, pomegranates, bananas, limes, jujube-trees, wheat, barley and clover.

Jews and Moslems in Old Sana

Sana, the old capital of the Zeidi Imams of Yemen, later the Ottoman capital, is situated 100 miles inland from Hodeida on an open plain 7,750 feet high. Here, besides the old Arab town, with its intricate markets and its government buildings, and the spacious garden suburb, there is a Jewish quarter where some 6,000 Hebrews practise their various crafts—cobblers, metal workers, and weavers. They are not ill-treated, but they may not carry arms, build a house of more than two storeys, nor alter the scantiness and simplicity of their dress which consists of a single, long, cotton shirt with a skull cap.

Old Sana is surrounded by a 40-foot wall of stone and mud, flanked with

ancient towers, to which the Turks have added various more wooden defences. The citadel (Qal'ah) covers several acres and stands on a slight eminence to the east, but it is armed with nothing more formidable than a saluting battery. There are many mosques, both Arab and Turkish, and the markets are plentifully stocked, not only with local products, but also with European stores from Hodeida and Aden. The population has been variously estimated by the different Europeans who have visited Sana—notably Harris, Marzani, Aubrey Herbert, Wavell, Bury, etc.—but it may be in the neighbourhood of 20,000.

Sabiyah's Huts of Leaf and Clay

Sabiyah, the present capital of Asir, is supposed, according to a recent census taken for the purpose of land distribution, to have the same number of inhabitants, yet it is almost entirely built of "areesh"—round huts made of leaf from Dom palms and lined with clay. The town is divided into old and new Sabiyah, and lies at the foot of two small tabular hills called Aquar Yemeniya and Aquar Shamia, where emeralds are said to be found.

In the newer portion the late Emir Idrisi had begun building himself a large palace of mud bricks, and several of the merchants and ministers had followed his example, so that the mushroom-shaped areesh were gradually giving place to two- and three-storeyed houses with plaster façades.

European Visitors to Asir

Ebha, the old Turkish capital, has endured so many wars that it is at present partially ruined and almost wholly deserted. The first Europeans to penetrate into Asir were the members of the Danish expedition under Carsten Niebuhr in 1763. Since then the country has been visited by the French doctors, Fresnel, Jomard, and Tamisier, who accompanied Mehemet Ali's expedition, and, to a minor extent, by the present writer in the winter of 1922-23.

Having reviewed the main inland towns of Arabia, we come to the ports, of which Aden is the most important. Aden consists of some 2,000 white-washed houses of stone or mud, and the whole town has been practically rebuilt since British occupation. One of its sights is a tunnel 350 yards long connecting the town with the isthmus. Tawahi, the port of Aden, is new and prosperous looking, with European hospitals, hotels and government offices.

The main trade of Arabia passes through Aden, which exports coffee, hides, honey, dried fruit, oil of sesame, fodder, drugs (almost entirely kat), animals and pearls, chiefly to India and West Africa, and imports oil, groceries, hardware, tobacco—in fact, all luxuries. The total value of her trade in 1914-15 was £5,940,000.

Jeddah, the port of Hejaz, has also a considerable trade, exporting some £60,000 worth of skins, hides, wool, henna, gum, mother-of-pearl shells, besides an immense quantity of specie (the result of the pilgrim influx), amounting to over £1,000,000 a year, and importing £1,500,000 worth of groceries, spices, timber, carpets, crockery, tobacco and hardware. Her trade is with Egypt, Massawa and India.

Ports of Araby and Their Trade

The ports of Asir and Yemen, of which, since the decay of Mocha, Hodeida, Midi and Jeizan are the largest, import European and Indian goods, chiefly through Aden, and export the hides, grain and livestock of the Tehama, pearls from their fisheries, and fruit, rock-salt, kat, honey, and coffee from the hills. I estimated the revenue in 1922 of the Emir Idrisi in Asir and north Yemen as nearly £200,000 derived from customs duties and tithes.

Koweit, on the Gulf coast, has a population of some 37,000, nearly all of whom live in the town, which illustrates the barrenness of the surrounding sultanate with its 20,000 practically uninhabited square miles. Koweit's trade is chiefly with India and the Persian and Arabian



ARABIA. Weird houses with dark intersecting alleys are found in Jeddah, a port whose decline began when the Hejaz railway opened



ARABIA. Mecca lies in a narrow valley two miles from Jeddah. Its Great Mosque, heart of Islam, is here seen with the Kaaba and the sacred well in which Moslems dip strips of linen to be used as burial shrouds.

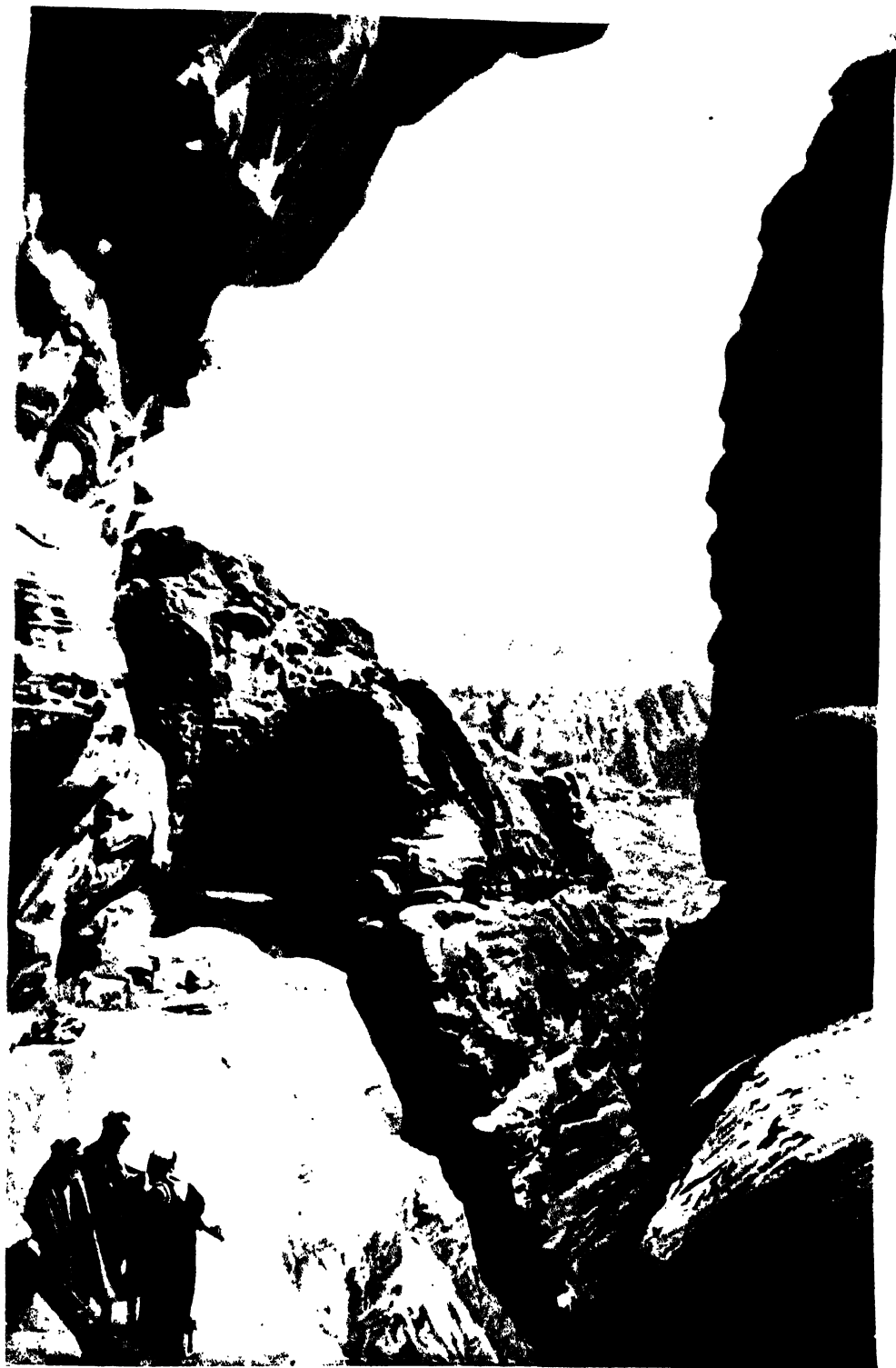


ARABIA. Yembo, part of Islam's holy city, Medina, lies on the eastern coast of the Red Sea in the Hejaz. Ornat but dwarfed buildings flank the streets traversed by pilgrim bands and straggling camel caravans.



American Colony, Jerusalem

ARABIA. *On an ancient trade route between Palestine and Arabia is this gorge, the only passage which led to what was Petra city*



Reuter-Lorber

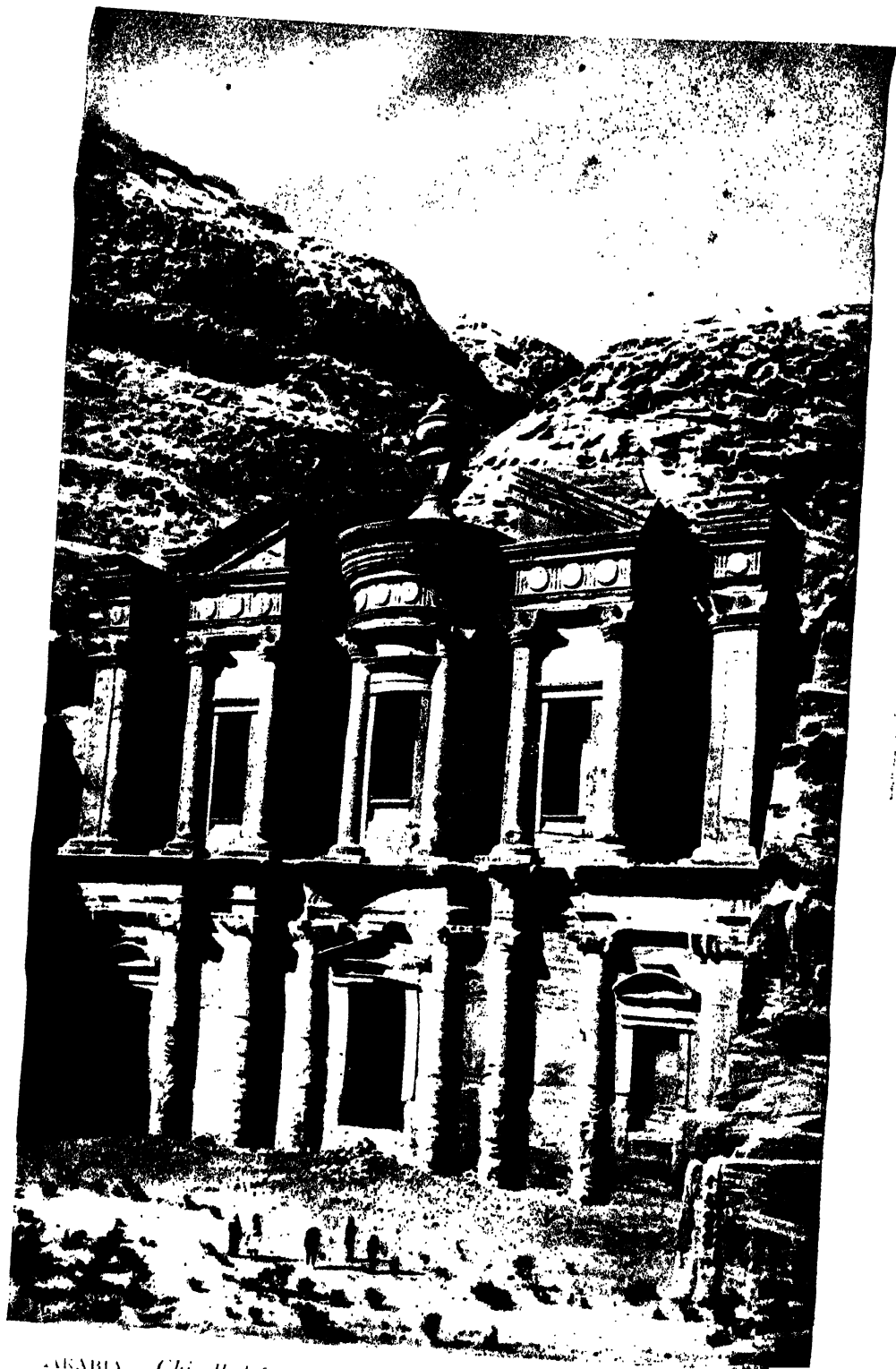
ARABIA. *The site of Petra, "rose-red city half as old as time," is here seen from a height between the walls of the ravine of the Musa*



ARABIA. A towering mass of granite, unclimbed granite, Jebel Musa - ancient Horeb - is the central height in the mass of the Sinai Peninsula triangle. In the valley on the left is the lonely Chapel of Elijah



ARABIA. Lying on the Red Sea coast south of Hodeida, Yemen province stretches inland to the El Akhof desert.
Barren, hilly land prevails, with occasional oases now which stand such Arab villages as this.



ARABIA. Chiselled from the red sandstone face high above deserted
Petra stands the imposing Ed-Deir temple, a relic of Roman times

Donald McLeish

coasts. Its chief imports are piece goods, rice, sugar, coffee, tea, arms and ammunition, oil, grain and hardware. It is the market of Nejd and Jebel Shammar upon which the central districts depend for their luxuries and even for necessary food stuff. Its exports are dried fish, pearls, specie, ghi and livestock, chiefly horses.

Oman, with its capital Muscat, and half a million inhabitants, has a considerable settled population which lives by agriculture and produces not only fine dates, but plantains and mangoes, pomegranates, quinces, sweet and bitter limes, olives and almonds. In Jebel Akhdar flourish walnut and fig, vine and mulberry, while the coconut is found in Dhofar.

In Batina fishing is the most important industry, and on the coast all livestock, including camels, are fed on fish-heads boiled up with date-stones.

Hinterland's Dependence on Coast

Sheep, cattle and goats are very plentiful, and in some of the inland towns there exist simple industries such as indigo dying, weaving, and gold and silver work. The most valuable export is dates, of which the finest go to America, and the chief imports are rice and cotton. In 1913 £180,000 worth of arms and ammunition was imported.

Hadhramaut, with a population of 150,000, produces a race of merchants who travel widely in the coastal districts, and have succeeded in establishing thriving businesses even in Asir and Yemen. Nevertheless her trade is small and local, an exchange of dates, wheat and honey, for oil, piece goods, groceries and iron.

It will be seen from this summary that, while the coastal districts produce considerably more than their essential food supply, the interior depends upon them for maintenance, producing only gums, butter, hides, wool and camels to pay for European and Indian goods and their long transport inland. The nomads, from north to south, breed an admirable type of fast riding-camels

and also quantities of baggage beasts which supply Egypt and western Asia. The small wiry breed of Asir is capable of carrying a 700-pound load.

The famous Arab horses come chiefly from Nejd and there is a considerable export of these to India, Syria and Egypt. Fine asses are bred in Hejaz and the central districts, and these are almost as invaluable as camels in a country where there are no roads and no tracks, except for a few miles on the coast. A route in Arabia is merely a direction. Quantities of small grey donkeys are imported from Africa and these form the chief means of transport in the western Tehama.

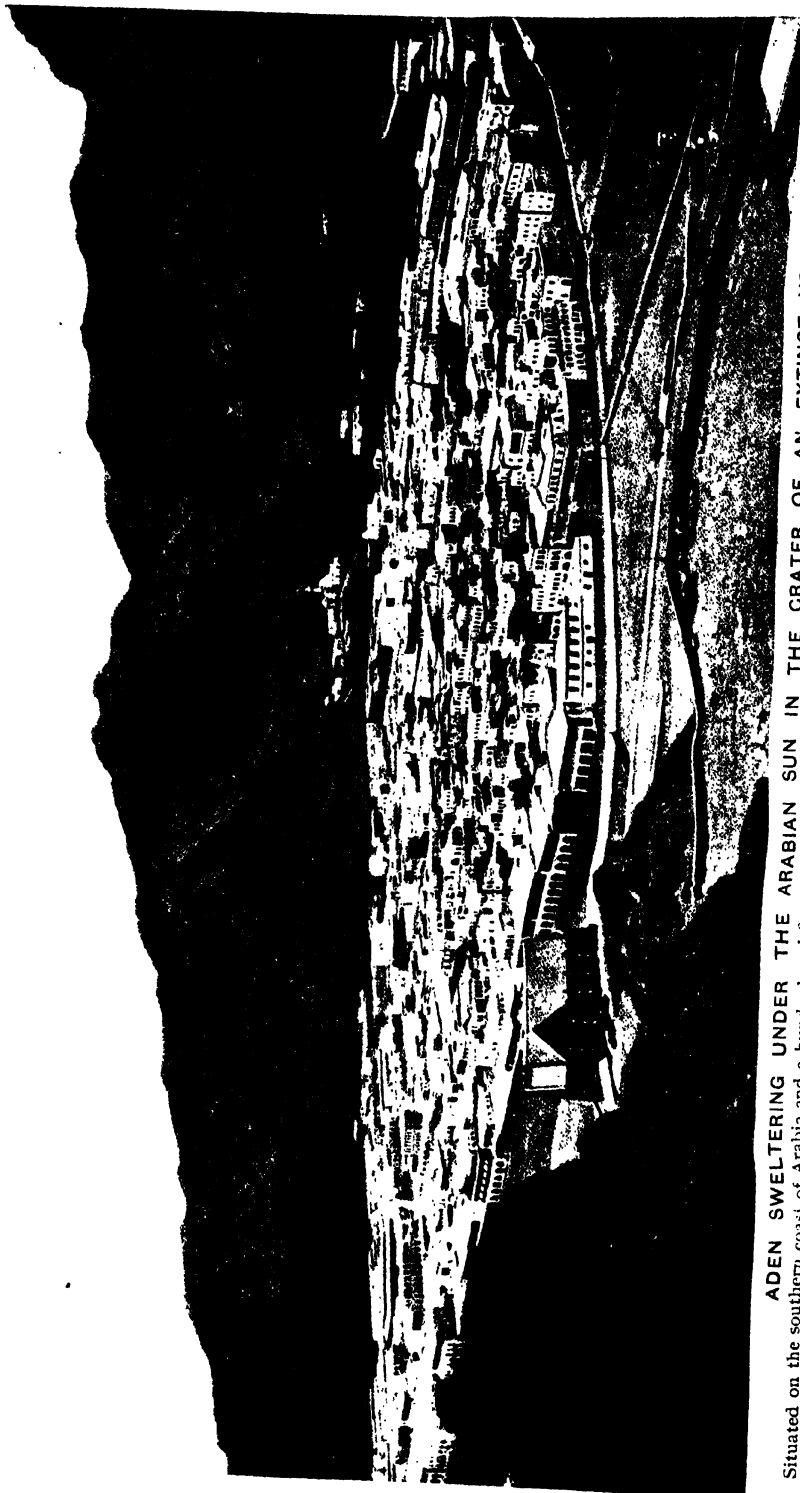
Islam Universal but not Unanimous

Since the eighth century the dominant religion of Arabia has been Islam. There are a few non-Moslem residents on the coast, chiefly Persians and Levantines, and old Jewish colonies exist in Yemen and Nejran, but these are a very small exception to the monopoly of the "True Believer." Islam is not, however, as unanimous as it is universal. The great majority of the people are Sunnis, but Shiites predominate in Hasa and Central Yemen, the former being Karmathians and the latter Zeidist. Even Mecca is tainted with heretical Zeidiism, owing, perhaps, to the number of Shiites who yearly make the pilgrimage from their holy cities of Kerbela and Najaf.

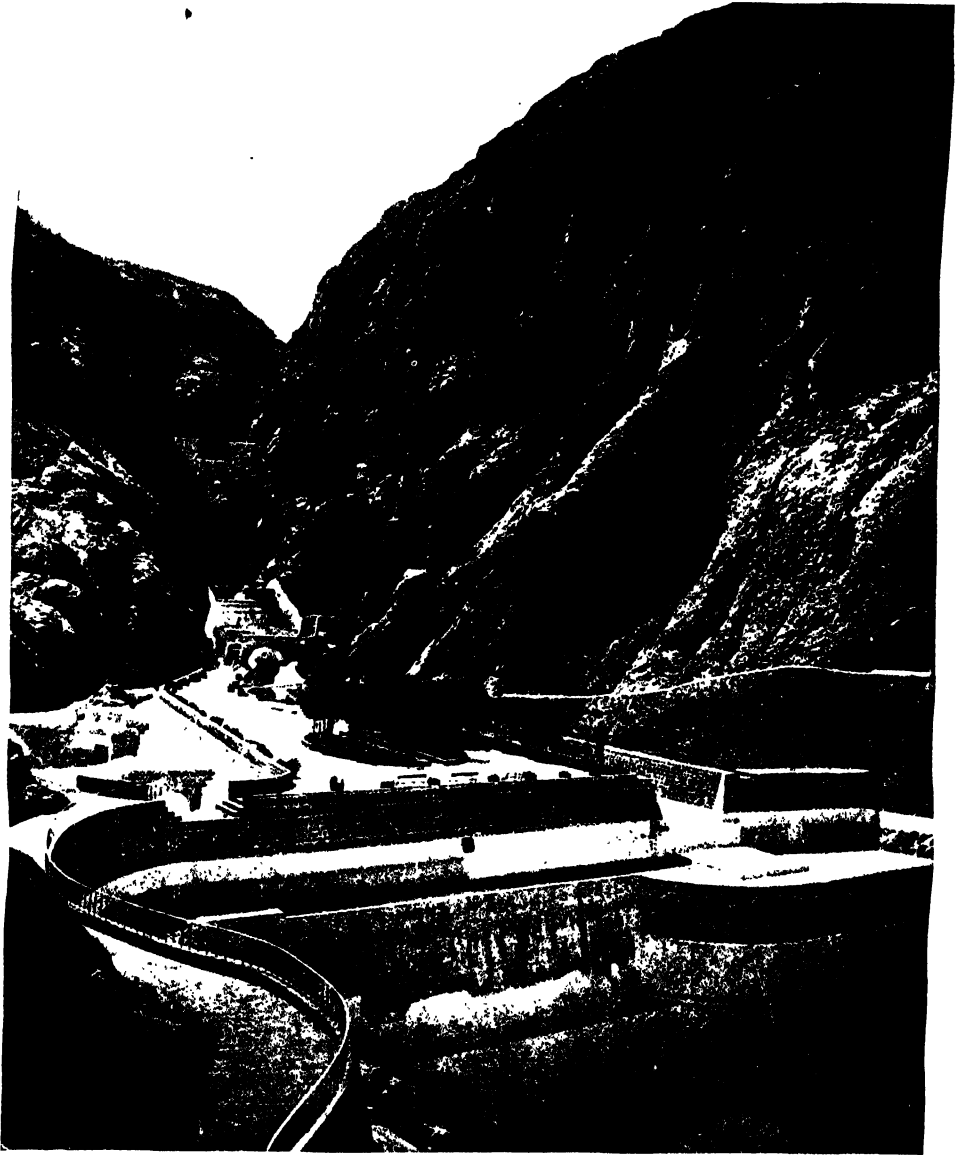
The Strongest Force in Arabia

Central Arabia has long been Wahabite. Wahabism, which arose in Nejd in the middle of the eighteenth century, is an ascetic revivalist movement among Moslems who sympathise with the strictest and most orthodox form of Islam. Its founder preached a return to the practices of the primitive Church, suppression of pagan ceremonies, no communication with infidels, whether Turks, Jews or Christians, and suppression of all luxury.

Ahmed el Idrisi taught a somewhat similar doctrine in 1830, and is responsible for the austere Idrisi tarika



ADEN SWELTERING UNDER THE ARABIAN SUN IN THE CRATER OF AN EXTINCT VOLCANO
Situating on the southern coast of Arabia and a hundred and five miles east of the straits of Bab el Mandeb, which form the southern end of the Red Sea, lies the town of Aden. It is built in the crater of an extinct volcano, part of whose rocky circle may be seen here, and is situated on the east side of a promontory about five miles long and three broad. The town is an important coaling-station on the sea road to India and exports salt which is obtained by evaporating sea water. Apart from the sometimes intolerable heat, the climate is healthy.



HOW SULTRY ADEN SOLVES THE PROBLEM OF WATER SUPPLY

Since the seventh century, when its great rock cisterns were begun, the water supply has been Aden's great problem. The cisterns, which have been restored and one of which is shown above, have a total capacity of eight million gallons. An aqueduct brings water from a village seven miles away and there are a few wells, but the chief source of supply is the distillation of sea water

(parent of the more famous Senussi tarika of North Africa) which reigns to-day in Asir and is the basis of a firm alliance between the puritans of Nejd and the Idrisi's tribesmen who control the route from central Riyadh to the markets on the Red Sea coast.

Wahabism is undoubtedly the strongest force in Arabia to-day, especially as

it was organized and manipulated by that great personality of the peninsula, Ibn Saud, Emir of Nejd. It is possible that it may prove to be the regeneration of Islam, but it represents the most retrogressive spirit in Arabia.

The coastal districts, with the exception of Asir, have come into contact with European methods and are anxious



MUSCAT, CHIEF TOWN OF OMAN, BUILT UNDER THE BATTLEMENTS OF A COMMANDING FORTRESS
 Lying at the foot of the precipitous hills on the south coast of the Gulf of Oman is Muscat, capital of the province of Oman. In it resides the sultan of the state, whose residence is the white building on the left built by the Portuguese in the sixteenth century. The town exports pearls, dates and horses, and much trade is carried on with the ports of India. Here natives are seen unloading cargoes from lighters moored in the harbour, waiting ashore with their loads on their shoulders. The province of Oman has a surface in the main barren and mountainous, but there are parts where the soil is fertile.



Rosita Forbes

DRAW WELL SUPPLYING WATER TO AN OASIS IN THE DESERT

Arabia has long been proverbial as a barren land, which only water can transform into a garden. Perennial rivers are few; periodical rains only in elevated regions, but many arid wastes are made fertile by irrigation. Here, at Shagra, from a superstructure over the well-mouth, buckets are lowered and raised by ropes drawn over pulleys by animals ascending and descending an artificial incline

ARABIA

to profit by her civilization, but Nejd is the centre of an old, narrow tradition which regards science as devilry, material comfort as laxity and all modern progress as pandering to the influence of the infidel. It remains to be seen whether the fanatical fervour of the Wahabis will be able to carry the Holy War into the more tolerant countries which lie beyond their deserts. It is a curious anomaly that out of these forces of destruction Ibn Saud was able to construct the only united and expanding emirate of the peninsula.

The Arabs of the north are of mixed blood and show a type modified by the imprint of many races—Persian, Mongol and Frank. They are the Ishmaelites or wanderers, lean, hard-faced men, generally bearded, with weak chins and large noses, sometimes of great stature. In summer and winter they wear heavy camel-hair mantles over a series of woollen robes, which, with a silk or cotton scarf wound round their heads, gives them a dignified and patriarchal appearance.

The tribesmen of Yemen and Asir are of a different stock. They are the pure Arabs. They are small-boned, lithe and supple, clean-shaven, with fine-cut, thin features and hair bunched in stiff ringlets on either side of smooth, golden-brown faces. On the coast there is an admixture of slave blood from

Abyssinia and Somaliland, and in the deserts the type sometimes degenerates into a creature who is almost savage, wearing nothing but a loin-cloth, carrying a spear, and rubbing his body with oil. In Jebel Haras I have seen fuzzy-headed Beduins with the low forehead and broad features of Central Africa.

The great Hashid and Bekil confederation represent the pure Arab at his best, for their mountain life hardens and invigorates them. They wear indigo kilts and turbans, with sheepskins slung across their backs; and some of their fortresses, stone-built and loopholed, are so high among the rocks that sheep and cattle have to be carried up across men's shoulders when they are a few days old.

The Arab woman's life varies little except in so far as it is nomad or settled. In the more tolerant towns shrouded figures are seen in the streets, bells tinkling in the hems of their garments as they go by barefooted or shod in coloured sandals or the high yellow boots of Hejaz. In Asir and Nejd a woman of good class only leaves her house twice, to be buried or to be married. The Beduin woman has more freedom and also does more work. An Isiri tribesman explained the division of labour in this way: "Man is born to fight, woman to work. Man carries the gun—woman the tools and the child."

ARABIA, GEOGRAPHICAL SUMMARY

Natural Divisions. Plateau marked by gable ridges; much of the interior is but slightly known. On the west the Red Sea trench, part of the Great Rift Valley; the Red Sea coast is marked by coral reefs, coral sand and terraces rising to a gable ridge. In general the land slopes sharply to the west and gently east to Muscat, and north-east to Basra. Rivers lose themselves in the porous limestone or in the desert sands.

Climate and Vegetation. The interior, especially Ruba el Khali, is rainless desert, cf. Egypt. To the north of the desert lies the area of winter rains, gradually increasing in quantity as the Mediterranean Sea is approached. South of the desert the highlands and the S.W. coast receive monsoon rains, cf. Abyssinia and India. Vegetation depends on the rainfall and occurs in the oases, and in scrubland and

steppeland, which provides pasture and is typical "Beduin country." The "barra," a lava desert in the north-west, separates north and south Hejaz. Tropical Yemen is most fertile and productive.

Railways and Communications. All routes are fundamentally pilgrim routes to Mecca, and depend upon water supplies and oases, e.g., the routes from Medina and Rabegh to Mecca with the "barra" between them. The Hejaz railway follows a trough west of the main gable ridge.

Trade. Mecca district produces insufficient supplies for the pilgrims and so trade converges on the Holy City.

Outlook. Natural conditions preclude trade progress in the Anglo-Egyptian Sudan and Abyssinia, the population seeming condemned to a Beduin nomadism, with its accompanying feuds, and isolated settlements at the oases.

THE ARCTIC LANDS

To-day & To-morrow in the Far North

by Vilhjalmur Stefansson

Arctic Explorer and Author of "The Friendly Arctic," etc.

SO far as climate and natural products are concerned there is no simple and logical way to differentiate Arctic from non-Arctic lands.

The simple mathematical way of bounding the Arctic by a circle on the globe about $66\frac{1}{2}^{\circ}$ from the Equator is the worst of all methods in the sense that it corresponds least to any realities of climate or of vegetable and animal life; in mid-winter, at least, some places considered sub-Arctic are warmer than others considered subtropical.

It might seem logical to take the northern limit of trees as the southern boundary of Arctic lands. Unfortunately, the features of climate which we associate with the Arctic do not alone determine forest distribution.

It would be even more unsatisfactory to define Arctic lands by distance from either the magnetic pole or the cold pole than to define them by their distance from the North Pole. But there is still another pole which has a little more though not much more fitness for being used as the centre of the Arctic. This is the so-called ice pole, or pole of relative inaccessibility.

Pole of Relative Inaccessibility

In navigating the Polar Sea you can approach with ships to within 400 miles of the North Pole on the Atlantic side, while you cannot approach within 1,000 miles of it on the Alaska side.

By plotting out on every meridian the farthest point to which a ship has been able to attain under its own power, we have marked out the area of relative inaccessibility, the "centre" of which has been taken as a point about latitude 84° north and 160° west from Greenwich.

If you were to come from the Spitsbergen side you would arrive at the

North Pole after approximately 400 miles of walking. If you wanted to go to the ice pole you would have to walk nearly 400 English miles beyond the North Pole. In deference to long custom, however, we shall here frequently refer to Arctic lands in the sense of those more than $66\frac{1}{2}^{\circ}$ from the Equator.

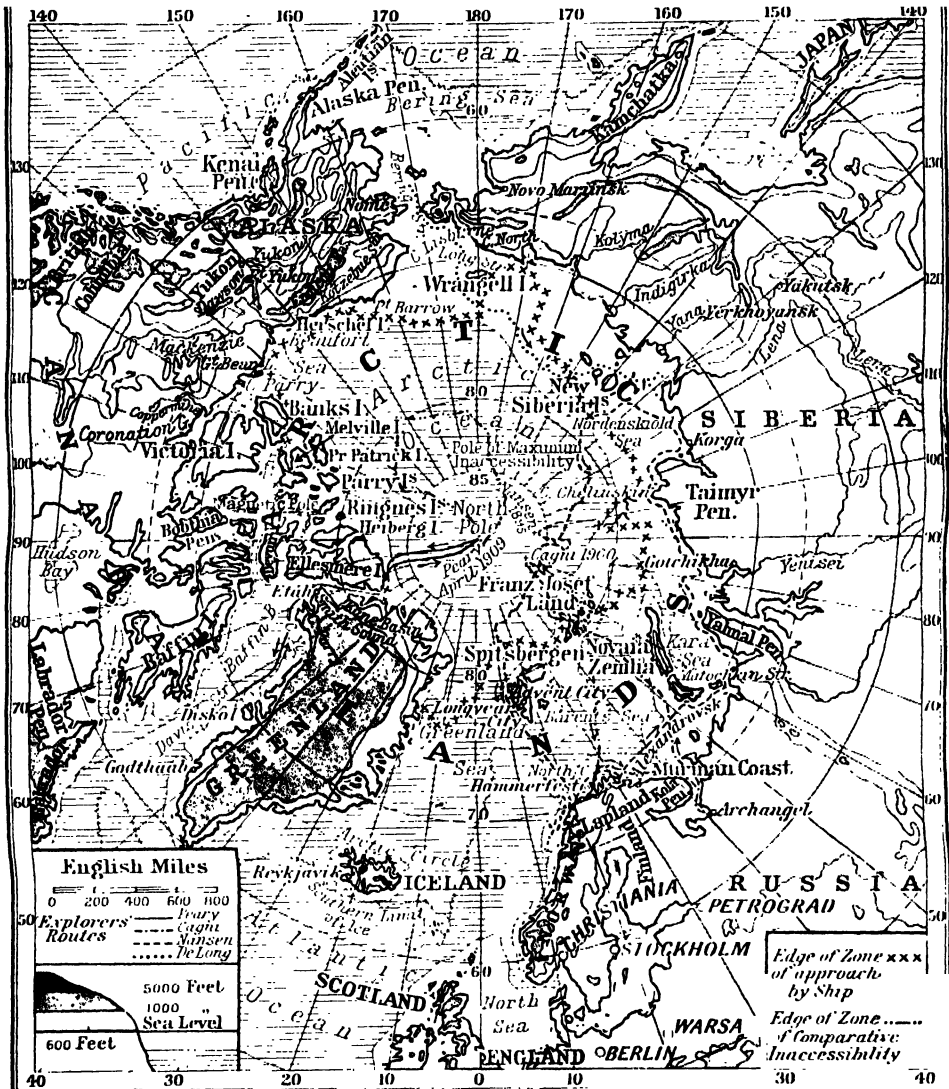
Wide Range of the Eskimos

Since Arctic lands are in the minds of some people nearly or quite synonymous with those occupied by Eskimos, we shall in some aspects consider as Arctic such territories as the Eskimos are known to have inhabited in recent times.

In the Old World the Lapps are usually called an Arctic people, but in this work they are dealt with under a separate head, and we will consider here only the lands occupied by Samoyeds, Chukchis, Asiatic Eskimos, and other reindeer nomads or hunters.

Taking the Eskimo range at what it was in the time of the early American explorers, we include in their territory the northern tip of Newfoundland, the coast line of Labrador, and most of the Labrador peninsula, the northern half of the western coast line of Hudson Bay, the Arctic coast of Canada and Alaska, following around Bering Sea to the Aleutian peninsula and islands, and ending on the south coast of Alaska somewhere near the Kenai peninsula.

All the islands to the north of North America can be included in the Eskimo world, although a few of them have as yet shown no sign of ever having been inhabited. In Asia there are Eskimos on the north-east tip of Siberia as far west as Cape North. On the Atlantic side the Eskimo area extends about as far south as the south tip of England, while the Aleutian portion on the Pacific side



THE GREAT LAND MASSES OF THE ARCTIC CIRCLE

is as far south as the middle of England. In the main the Arctic lands are low. Alaska is in part mountainous, but the Eskimos do not generally live on the high land. The triangular prairie or lowland north of the Endicott Mountains has an area about that of the British Isles and there are no cliffs facing the coast higher than 30 or 40 feet. Melville Island is rugged rather than mountainous, and so is Baffin Island. The high Canadian islands are Heiberg and Ellesmere, and all that part of continental Canada which was inhabited by

Eskimos is low enough to be entirely free of snow in summer.

Generally speaking, the northern portions of the Old World are similarly low, and therefore similarly free from permanent ice or snow. The highest of the Arctic lands is Greenland, which is one reason why about 90 per cent. of it is covered with permanent ice. The other cause is heavy precipitation.

Like every other part of the world, the Arctic has a climate broadly divisible into continental and insular. The most striking feature of insular

climate is its comparative uniformity. The exaggerations which now and then creep into the accounts of travellers, and the general theory of the ancients that the Polar regions are always cold, are responsible for the common belief that all the Arctic lands are cold at all times of the year. This impression is entirely fallacious. We would say instead that only those parts of the Arctic which have an insular climate are "cold" throughout the whole year.

Excluding Greenland, the Arctic lands with an insular climate are not nearly as extensive as those that have a continental climate. Although we have never done so in the past, we should really emphasise the continental Arctic climate, since it affects both more square miles of land and more people who live under its influence.

According to the common views, we are prepared for the low temperature of the continental Arctic winter; but only students of climatology are equally prepared to be told that the temperature of 90° F. above zero in the shade is

more frequently exceeded in July at Fort Yukon, north of the Arctic Circle, than it is in London.

Going straight west from Scotland we come to the middle of the Labrador coast. Although the Labrador coast is cooler in July than the coast of Scotland, the interior of the Labrador peninsula is likely to be hotter in July than the Highlands of Scotland at the same altitude.

To get the most striking view of what a continental climate may be in the Arctic, take the reports for Verkhoyansk on the Yana river in Siberia, just north of the Arctic Circle, where we have a record of 92° F. below zero in winter, and 93° F. above zero in summer, a temperature range of no less than 185°—about the greatest known. This is in the Yakutsk province where wheat, barley, oats and rye are grown.

For the sake of emphasis it is worth pointing out that the minimum temperature of Verkhoyansk is at least 20° F. (and more likely 25° F. or 30° F.) lower than any temperature that ever



AFTER REPLETION COMES REPOSE: WALRUSES IN THE BERING STRAITS

It would scarcely be possible to find a picture more suggestive of care-free abandon than is found in these gigantic walrus asleep on a block of ice in the Bering Sea. The species is confined to northern circumpolar regions and has highly developed gregarious habits; its only redoubtable foe is the Polar bear against whose advances the long tusks are a formidable defence.

occurs at the North Pole. This ceases to be surprising if we remember that the three main factors which control minimum winter temperatures are: (1) distance north from the Equator; (2) distance above sea-level; and (3) distance away from the ocean.

Although Verkhoyansk and Fort Yukon are only a few hundred feet above sea-level, this altitude helps them to be colder than the North Pole, which lies in the ocean. But what helps still more is that each of them is several hundred miles away from the warmth of the ocean while the North Pole is 400 miles away from the chill of the nearest land.

To understand the stabilising influence of the Arctic Ocean upon the temperature of the coasts and the islands, we must remember that its common name, the Frozen Ocean, is not to be taken too literally. Warm water

is lighter than cold. This sets up constant ocean currents which cool the tropics and warm the Arctic. It has been estimated that even in January at least 25 per cent. of the surface of the Arctic Sea is open water. The 75 per cent. that is ice is in the form of cakes of various sizes from that of a table to that of the largest English county. They are constantly moving about sluggishly before the wind and current, spinning on their axes as they move ahead and constantly jostling each other.

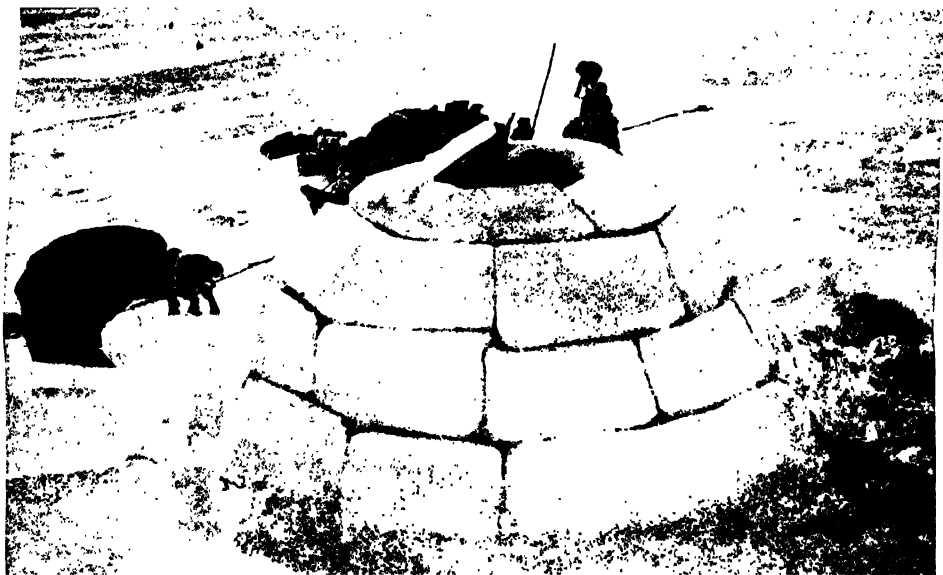
In the summer from 50 to 75 per cent. of the surface of the Polar ocean is free of ice. The temperature of the water all the year round is near plus 28° F. The average thickness of the ice, even in winter, is less than four feet, so that a certain amount of heat can pass up through it if the air above is anything like minus 40° F., but there is an especially rapid exchange of heat



Vilhjalmur Stefansson

WITH THE ADVENT OF SPRING WINTER'S ICY GRIP RELAXES

Owing to the constant play of currents the surface of the Arctic Ocean is never entirely frozen. In spring the winter ice, which is formed of large-sized cakes and covers three-fourths of the total surface, begins to break up and, spinning on their axes and groaning as they jostle each other, the cakes gradually move out until in summer only a quarter of the "Frozen Ocean" is ice covered



Vilhjalmur Stefansson

EASILY OBTAINED MATERIALS SOLVE THE ESKIMO'S HOUSING PROBLEM

Though the snow house is an almost unknown form of shelter to the Eskimos of Alaska and Siberia, their brothers who inhabit the islands north of Canada and that part of the mainland which lies between Hudson Bay and Cape Parry use them all through the winter. In Greenland earth houses built on a skeleton of whale's bones and stones are commonly used.

between the open water and the air when they come to differ markedly—say water at plus 28° F., and air at minus 40° F.

This interchange of heat prevents the air on the coast or in small islands from becoming colder, so far as we know, than about 55° F. below zero. In the interior of large islands you may get a temperature approaching the continental, and on the sea coast of large islands a temperature as low as minus 60° F., or even a few degrees lower, may occur when the wind blows from the interior of the island.

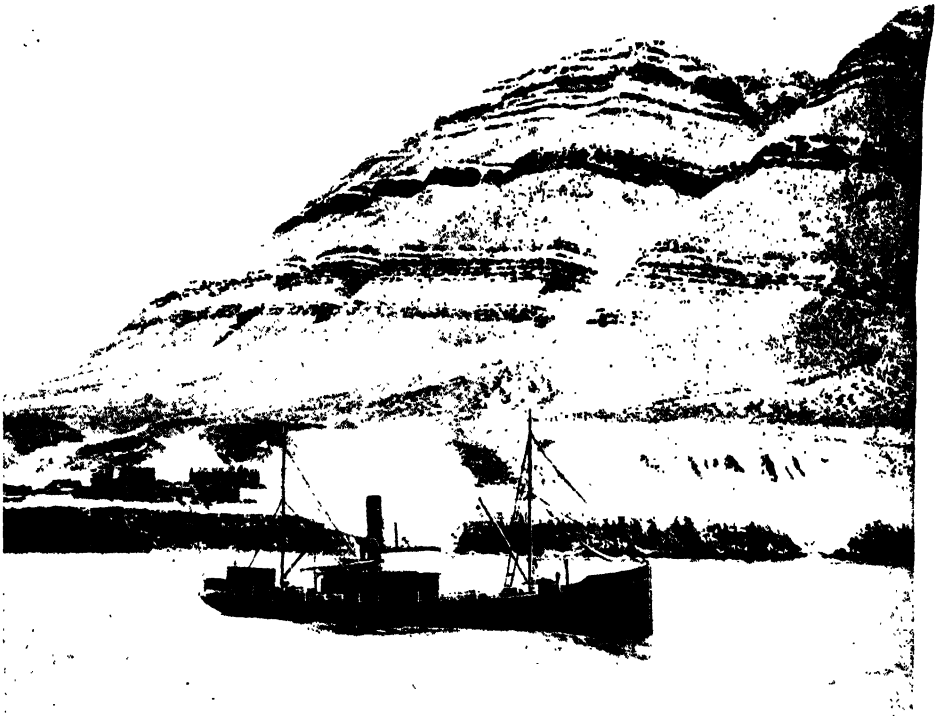
Continental climates are not peculiar to the Arctic. There are only a few places in the Arctic, such as Verkhoyansk, that have greater extremes of heat and cold than parts of the wheat and cattle lands of the United States.

The most significant of the various factors that inevitably produce high continental Arctic summer temperatures is easy to explain. The temperature of a summer day depends mainly on the amount of heat received from the sun during the twenty-four hours, or

rather upon the amount of light that is converted into heat. But the total heat per day depends not only upon the heat per hour but also upon the number of hours during which the heat is delivered.

Roughly speaking, the sun delivers heat only during the period between sunrise and sunset. Now consider any specific summer day in the northern hemisphere: for instance, June 25. On that day the sun shines about twelve hours in Mexico, thirteen hours in the middle United States, fourteen hours in southern Canada, eighteen hours in central Canada, but 24 hours a day over a vast area (hundreds of thousands of square miles) in the northern part of Canada.

As the amount per hour decreases on going north so does the number of hours increase, giving a product of the two factors that is roughly constant. From this theoretical consideration we would conclude that June 25 would be likely to be about equally hot in Mexico, in the United States and in Canada, along some line that follows northward through the interior of the continent



Herbert G. Ponting

ONE OF SPITSBERGEN'S GREAT COAL-BEARING MOUNTAINS

Although the existence of coal in Spitsbergen had been known for three hundred years, it was not until the end of the nineteenth century that the first full cargo was shipped. Since then many thousands of tons have reached Europe, the mines being largely worked by British, American and Swedish companies. The strata on this mountain face are very boldly marked.

- at the same height above sea-level and as distant as possible from the sea.

The theory we inherited from stay-at-home Greek and medieval philosophers, "the farther north you go the colder it gets," has long held its ground against the universal experience of travellers. It pretends to be applicable at all times of year, everywhere, while the true explanation has to be varied month by month and also according to whether the place is on a continent or an island.

It is true that, generally speaking, the average cold for the year increases as you go north; it is also true that the cold of January and of several other months increases as you go north. It is even true that where insular climates apply even July is colder the farther north. But North America and Asia

are vast continents, and in their interiors the maximum temperature of a July day is likely to be about the same whether 1,000, 2,000 or 4,000 miles north of the Equator.

The rains of summer and the snows of winter form a combined precipitation in the Arctic lands which is generally much less than that of any parts of the tropics and temperate zone except deserts. Rain is easy to measure in gauges, but snow very difficult, for after being deposited on the ground it may be whirled into the air by the wind to be deposited in another place.

Precipitation estimates for the Arctic are therefore unreliable so far as winter is concerned. It is probable that if we were to melt the snow and add it to the rain we would have in those parts

of the Arctic that have a continental climate anything from four inches to twelve inches of water per year. In the southward extensions of the Eskimo country into Newfoundland and the Aleutian Islands there is a much heavier precipitation; in places forty or fifty inches.

In the continental Arctic the fall of snow (measured as snow) will be from one and a half to three feet per winter. This means that the snowfall in parts of Scotland and in parts of the southern half of the United States is much heavier than in the typical Arctic. Here we have the main explanation of the fact that (if you exclude Greenland) there is far less permanent ice and snow on the land in the Arctic regions than in the north temperate zone. A careful estimate would probably show that there is more "eternal ice and snow" within the torrid zone than there is in the Arctic portion of the continents of North America and Asia.

Altitude and Glaciation

Greenland, with reference to ice the chief exception to the rule of Arctic lands, is a mass of mountains in a region of comparatively heavy precipitation, and so we have in reality "Greenland's icy mountains." But in that quotation from the well-known hymn we must emphasise mountains if we are to get the true picture.

There are four other Arctic islands or groups that are more or less mountainous, and therefore contain more or less glacier ice—Franz Josef Land, Spitsbergen, Ellesmere Island and Heiberg Island. There are said to be a few small glaciers in Ballin Island. There are great glaciers in the high mountains of southern Alaska. More than three-quarters of the glaciers of Canada are in the warmest of all its provinces—British Columbia; again because of high mountains and heavy precipitation. Similarly, there is more permanent ice in the tropical and sub-tropical mountains of southern and

central Asia than there is in Asia north of the Arctic Circle.

From the point of view of altitude and glaciation it is important to contrast the Arctic and Antarctic. The Arctic is mainly a deep ocean, but the centre of the Antarctic is mainly a continent thought to be larger than Australia, and on the average the highest of all the continents.

Arctic and Antarctic Contrasted

Apart from Greenland there is very little land in the Arctic that is ice-covered, but in the Antarctic there is very little land that is not ice-covered. In the Antarctic sea life is extraordinarily abundant everywhere along the fringes of the continent, but once you leave the sea behind you leave behind also all life, except a few micro-organisms; in the Arctic the sea was formerly supposed to be well supplied with animal life around its fringes and devoid of life towards the centre; but recent investigations tend to show that life is found in considerable abundance throughout the Arctic seas.

These conditions have made necessary a fundamental difference in the methods of exploration and travel. The Antarctic explorer marches over firm land. There are occasional crevasses into which he may fall, especially near the edges of the continent and upon steep slopes in the interior, but in the main his footing is secure.

Different Conditions of Travel

The Arctic explorer has been compelled to travel over moving ice. In the Antarctic he can leave behind a depot on the outward journey and (if his astronomical observations and dead reckoning are fairly careful) he will find it on his way back. The ground does not shift, there are no predatory animals and there is no rapid decay, so that food and clothing would be found in good condition at the exact spot years later. But on the Arctic Sea, if you left a depot behind, you would have the same trouble in returning to it that you

would if you left behind a dingey in mid-Atlantic expecting to pick it up on a return voyage. The ice cake you leave the depot on may drift in any direction. It may be broken by pressure into fragments, burying your depot; or the piece on which it is located may be tipped on edge, spilling into the water.

Since your route is overland you can begin an Antarctic journey in the spring, carrying it through the summer with

An important difference between the continental and insular climates in the Arctic is that where the insular prevails, fogs and drizzling rains are common throughout the summer. Even in the islands precipitation is but slight in winter and the weather therefore usually clear. This is one of the chief reasons why all Eskimos, and most white men who have been in the Arctic several years, prefer winter to summer.



Paul R. Reynolds

FORESTALLING BLEAK WINTER'S RIGOUR NORTH OF THE ARCTIC CIRCLE

In the most northerly regions, where winters are long and dark with the temperature often far below zero, much care must be devoted to the building of a habitation that will be warm and wind-tight. The primitive Eskimos here are constructing such a house; skins, later to be covered with moss and earth, the walls that cover this basket-like framework of willow.

the advantage of both comparative warmth and perpetual daylight. In the Arctic you must have firm ice instead of slush or water, and the journey must therefore begin shortly after mid-winter in intense cold and little daylight, and must be finished before the warmth of May, just after the arrival of the perpetual summer day.

We now know that food and fuel (the lean and fat of animals) can be secured almost anywhere in the Arctic. This so far compensates for the difficulties of darkness and moving ice that Arctic travel is now generally considered easier and safer than Antarctic.

But where continental climates prevail, there is often a great deal of clear summer weather. During the summer of 1910, for instance, my party were about 100 miles inland in Canada, just north of the Arctic Circle. We had week after week without a cloud in the sky. The weather itself was therefore pleasant, although it was extremely hot, ranging frequently from 80° to 95° F. in the shade with extreme humidity.

What made the season intolerable was the plague of mosquitoes, sand flies and other insects that sting. The Arctic grasslands beyond the forests are the paradise of the mosquito.

Tropical travellers who have also been in the Arctic agree that mosquitoes are nowhere in the tropics half so numerous. While their buzzing and biting make life difficult, there is the slight consolation that they carry no disease—malaria, yellow fever or any other. The mosquitoes come out just before the last snow disappears in the spring and are bad for a period of two or three months, quieting down usually towards the latter part of August, when their place in the torture of men and animals is taken by the sand flies.

As a whole the Arctic lands are probably neither more nor less stormy than the temperate lands, and the insular climates there correspond to, say, England or Japan in that respect, while the continental areas correspond to the United States or Russia. Thunderstorms are comparatively rare.

Localisation of Winter Storms

Generally speaking, stormy areas are those where mountains or high plateaux come near the open sea. Barrow Point, Alaska, and Herschel Island on the north-west coast of Canada are about 400 miles apart and the difference between them in winter storminess is typical for the Arctic. Barrow is several hundred miles from the nearest mountains, and winds above forty miles an hour are rare. Herschel Island is less than twenty miles from a fairly high range, and gales of from fifty to seventy or even eighty miles an hour occur every month of the winter, when the snow flies so thick that you cannot see a house painted red at twenty paces. One such storm at Herschel lasted nine days, with a wind throughout the entire period probably never less than 50 miles per hour, and frequently up towards seventy or eighty. These are generally local storms. Thirty miles either east or west there may be light winds or even calm weather.

Arctic weather is more uniform than that of the temperate zone and resembles tropical weather in that

respect. On the north coast of Canada or Siberia the summer as measured by the time when small ponds are free of ice, is not likely to vary more than six weeks between one year and another. At the north-east corner of Great Bear Lake (just within the Arctic) we had the first mosquitoes the first week in May, and as the lake was not frozen we could travel on the ice even near shore until the first week in November.

Healthiness of the Arctic Climate

Most people spending the year with us would have considered that summer about five and a half months long. One hundred miles to the north of us on the coast the summer might have been considered to be four months, and 500 miles north in Melville Island, perhaps three months. These conditions would doubtless be similar in Arctic Siberia and in the islands beyond.

But whether the Arctic climate is continental or insular it is found by people of all races most stimulating and favourable to health. This is one of the chief reasons why Arctic explorers always want to go north again. It makes little difference what the other conditions may be, you are happy if you are superbly healthy. Herein lies a problem for the Arctic explorer who tries to convey a true picture of how it feels to live in the high north. When he describes with objective correctness a blizzard in which he took keen delight, the reader sees only how miserable he himself would have been if he had been out in that kind of a storm in Scotland or Ontario.

Southerners in Northern Lands

It is commonly supposed that only the northern nations enjoy a northern climate. This has been contrary to the experience of all Arctic travellers so far as I know. The whalers from Scotland and Norway are usually natives of those countries, but the whalers from New Bedford and San Francisco, U.S.A., are of all races and nationalities. There are numerous

cases where negroes and South Sea Islanders have gone to the Arctic in whaling ships and have liked it so well that they have settled down to live as trappers of foxes on the north coast of Canada and Alaska.

Flora of the Arctic Circle

If we consider only the lands within the Arctic Circle and take the estimate made by Sir Clements Markham about the year 1913, we have in the Arctic about 28 kinds (species) of ferns, 250 kinds of lichens, 330 kinds of mosses, and about 760 kinds of flowering plants. There are doubtless many others that remain still to be identified.

Not only are the Arctic flowering plants more numerous as species than the non-flowering, but they are also more abundant as individuals. I have estimated roughly that for every ton of mosses and lichens north of the Arctic Circle there are ten tons of grasses, sedges, and other flowering plants.

There has been a custom of speaking of the Arctic grasslands as "tundras." At a conference of geographers in the United States in 1922 there was substantial unanimity against the use of this term, since no one knows exactly what it means. Russians at this congress explained the Russian meaning of the word, but since that is not the meaning with which geographers had been using it, there is no point in trying to translate the Russian into English. Some of the geographers favoured speaking of "Arctic grasslands" or "Arctic meadows." I prefer Arctic prairie, but usage has made tundra a technical term for British geographers. The distinction between tundra and prairie lies in the permanently frozen subsoil of the tundras.

Northern Limit of Forest Growth

The most northerly island in the world, so far as we know, is Ellesmere. Even here there are more than 100 species of flowering plants, among them primroses, buttercups, dandelions, wild timothy and bluegrass. Peary has

reported that he met a bumble-bee about half a mile out on the ice north of the north tip of the most northerly land in the world. It had wandered from the flowers on the shore, where there were beetles, butterflies and several other kinds of insects as well.

Within the actual Arctic Circle forests are not extensive, although by no means absent. What determines the northern limit of trees is neither the intensity of the winter cold nor the length of the winter, but the maximum heat of the summer (no matter how short). The maximum heat required seems to be somewhere between 70° F. and 80° F. in the shade. As this is attained on the Arctic lowlands, we have forests thrust well northward along most of the river valleys. On the Mackenzie in Canada, more than 100 miles north of the Arctic Circle, there are spruce trees straight and graceful 100 feet high. Trees of 50 to 75 feet are found another 50 miles north.

Dwarf Willows of Melville Island

The most northerly trees of importance are the spruce and cottonwood or poplar. There are also alders and willows that are locally called trees. In some of the river valleys "willows" 15 to 25 feet high are found down to tide water. In the islands to the north of Canada these "willows" grow smaller as you go north. In Victoria Island, about 250 miles north of the Arctic Circle, they are five or six feet high. Another 300 miles north, in Melville Island, they are seldom more than knee high. In the most northerly islands there are small bushes of various sorts, but in these extreme locations the roots are usually larger than the stems above the ground and the stems themselves take the nature of creepers.

The great land animal is the caribou. These animals are about as numerous now as buffaloes were about 1870 on the plains of the United States. The estimates for Arctic Canada run from five million to thirty million. There are various species or sub-species,



Vilhjalmur Stefansson

ARCTIC LANDS. *Incredible as it may seem, over seven hundred kinds of plants and ferns grow profusely on these northern prairie lands*



Vilhjalmur Stefansson

ARCTIC LANDS. *Amazing is the number of vividly coloured butterflies as well as beetles and even bees that enrich the Arctic summer.*



Villikilaur Siertassua

ARCTIC LANDS. Seals afford the Eskimo both food and clothing, and these men, having harpooned one from their boat which is now beached, are hauling their catch up the shelving shore from the ice-strewn sea



Paul R. Reynolds

ARCTIC LANDS. In Arctic Alaska enormous numbers of trout crowd the waters. The fish are not shy like those in European lands, and this photo shows one day's catch, little more than one day's food for a large Eskimo family



Vilhjalmur Stefánsson

ARCTIC LANDS. *The Far North is no sterile realm of ice ; millions of birds breed in summer, and the snow owls remain far into winter*



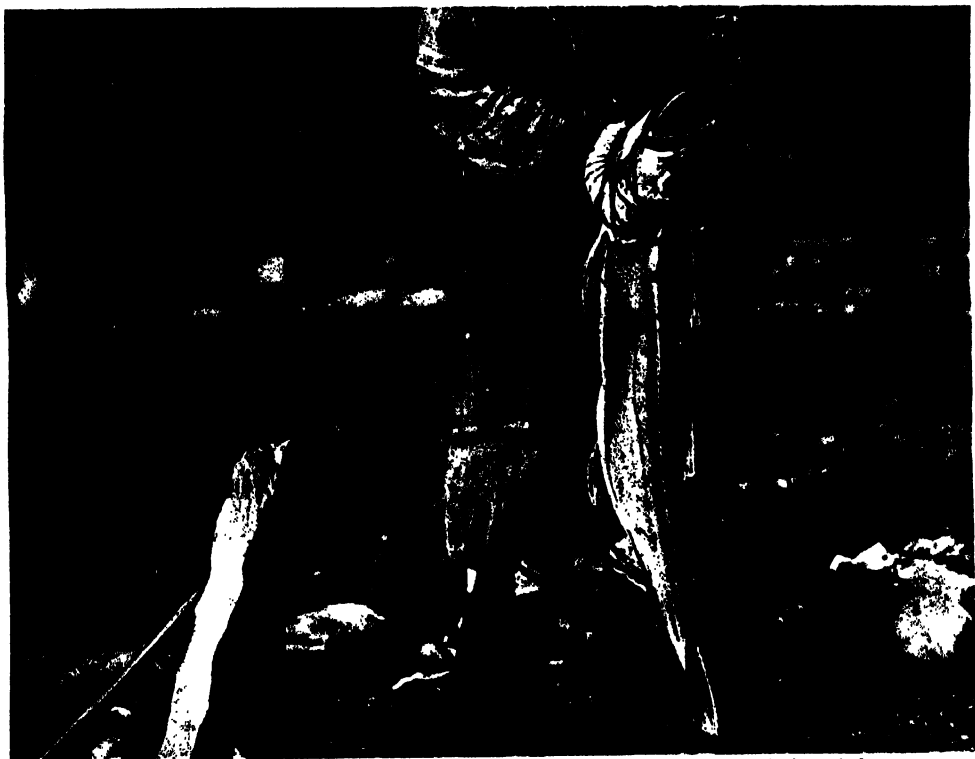
Vilhjalmur Stefánsson

ARCTIC LANDS. *The eider-duck is found in these latitudes from Spitsbergen to North America ; eider-down is gathered from its nest*



Vilhjalmur Stefansson

ARCTIC LANDS. *Another example of the teeming animal life of the Arctic is the marmot, a species of rodent allied to the squirrel*



Vilhjalmur Stefansson

ARCTIC LANDS. *Trout attain great size in the rivers and lakes of northernmost America, and fish of over 50 lb. have been taken*



Herbert G. Postings

ARCTIC LANDS. On the Recherche Glacier, Spitsbergen, looking towards the Calypso Glacier. Glaciers are formed by the changing of the snow nearest the rock to ice, and eventually the whole mass moves downwards



HERBERT G. POOLING
ARCTIC LANDS. Photograph from Recherche or Joseph's Bay, Spitzbergen, of the vast expanse of the Recherche Glacier, with (above) a "close-up" view of the same scene showing the precipitous face of this enormous sheet of ice



Vilhjalmt Stenason

ARCTIC LANDS. Spruce forests cover large tracts in this area, wrongly reputed barren, and are used for pil-
brops and scaffolding poles. Here, in the Yukon, evergreen coniferæ are often over one hundred feet high

differing considerably in size, but shading gradually one into the other. In the open country around the mouth of the Mackenzie they are about twice as large as on the most northerly islands.

There is a considerable movement southward in the autumn in certain places, but it scarcely has the character of a real migration—such as that of geese; for instance. In the most northerly islands no southward movement has been noted. The caribou do cross in winter on the ice from island to island, but they are as likely to travel east or west as north or south. We find them about equally numerous in these islands at all seasons.

Distribution of the Caribou

The horns of caribou are shed every year. The old males shed theirs in January, the half-grown males in February or March, and the cows in April or May. All over the northern islands you find scattered the horns of every age and both sexes, showing they have been there in January and March no less than in June and September.

Caribou roam at present over all the known Arctic islands north of North America. They are found in Spitsbergen, Novaia Zemlia and the New Siberian Islands, but are absent from Franz Josef Land and Wrangell Island. The Spitsbergen caribou are said to be nearly extinct because of the depredations of white men during the last three hundred years.

Next after the caribou the most important animal is the ovibos (called also cattle, Polar cattle, and Polar oxen by the early explorers, and more recently musk-oxen by sportsmen and travellers). These animals differ from nearly all others in the world in that they do not flee their enemies. They have two enemies in the Arctic now—wolves and human beings. The caribou can run much faster than the wolf, which captures them by a pursuit that eventually tires them out. But the ovibos cannot run half so fast as the wolf, so they form in a circle or

hollow square with the smaller animals inside; or, more properly speaking, they would so form if they were attacked by wolves, but it is my belief that they are never attacked.

Threatened Extinction of the Ovibos

The method of defence which is perfect against wolves is, however, suicidal with regard to the Eskimos, who usually kill every animal of every herd they see. The result is that the ovibos are now found only in districts which are rarely or never visited by human beings. It is estimated that there are one or two thousand left in rare inaccessible places north-west of Hudson Bay, and perhaps fifteen to thirty thousand in the islands to the north of Canada. There are probably also several hundreds, or perhaps 2,000 or 3,000, in northern and north-eastern Greenland.

The scientific name *ovibos* means sheep-cow, and is roughly descriptive. There is a resemblance to the American bison and to the Asiatic yak. The biggest and fattest males weigh about 700 pounds, and may be roughly compared to Highland cattle, although the legs are shorter and other proportions of the body different. On most parts of the body there is long straggling hair somewhat like the mane of a horse. In the roots of this long hair grows the wool, brown in colour, softer in texture than cashmere and apparently suited to the manufacture of the finest fabrics.

Other Arctic Prairie Mammals

There is only one other large land animal in the open country, the so-called "Barren Ground" grizzly.

The caribou live mainly on grass in summer and mainly on lichens in winter. The ovibos lives mainly on grasses and sedges. The grizzly lives also mainly on vegetation. The grizzlies hibernate from October to April. Their range is confined to Canada and Alaska. There are smaller bears in Arctic Siberia, but in recent geologic times none is known to have inhabited the islands to the north.

The other animals of the Arctic prairies are spermophiles (a kind of burrowing rodent not unlike the gopher or ground squirrel), lemmings, shrews, two kinds of weasels, musk-rats, wolverines and wolves. Of these only the wolf, the lemming, and the smaller of the two weasels are found in the islands. The musk-rat and wolverine seldom go far beyond the edge of the forest; they are really forest animals.

Polar Bears and White Foxes

In the woods and mountains south of the open country the land animals are more numerous, the moose, mountain sheep, marten, mink, otter, beaver, squirrel, porcupine, fox (red, cross and silver or black) and several others.

On the surface of the sea are two animals, the Polar bear and the white fox. The Polar bears spend 95 per cent. of their time at sea, coming ashore only rarely, and as if by accident, although they are sometimes found as far as one hundred miles inland. They are wonderful swimmers and are also found occasionally in the ocean out of sight of either land or ice. They cannot sink, and therefore rest in the water when they like. Their maximum swimming speed is variously estimated at from six to nine miles per hour.

Animal Life in the Arctic Ocean

Polar bears live on seals, which they can capture only among broken ice, or when the seals are basking on top of the ice in spring. Their inability to get seals through unbroken ice leads to their comparative rarity or absence over half or three-quarters of the Arctic Sea.

Most of the white foxes spend about three-quarters of their time at sea, although there are a few that live the year round on land. All these foxes come ashore in the spring on some land where they have their young, and live the summer on birds' eggs, fledgling birds, lemmings and the like. A few of them continue to eke out a living on the land throughout the winter, depending then mainly on ptarmigan. Those that go

to sea are parasitic followers of the Polar bear.

Even a hungry bear will not eat more than, say, 50 pounds at a time, but the seals he kills are frequently from 100 to 150 pounds. Having had his meal, the bear goes off 100 yards or so and sleeps. It is then that the foxes come in for a feast. When you find the trail of a Polar bear you frequently find also the tracks of from one to a dozen foxes following.

Further study will probably show that the Arctic Ocean is as well supplied with animal life as any ocean. It has long been well known that there are unbelievable quantities of seals, walrus and various whales on the fringes of the Arctic. The Eskimos fish by primitive methods from the beach and still have good catches. Herring are known to run in shoals, and there are codfish, but it is only by inference that we conclude that these are in large quantities. There are also many other sorts of fish in both river and sea.

Breeding Ground of Countless Birds

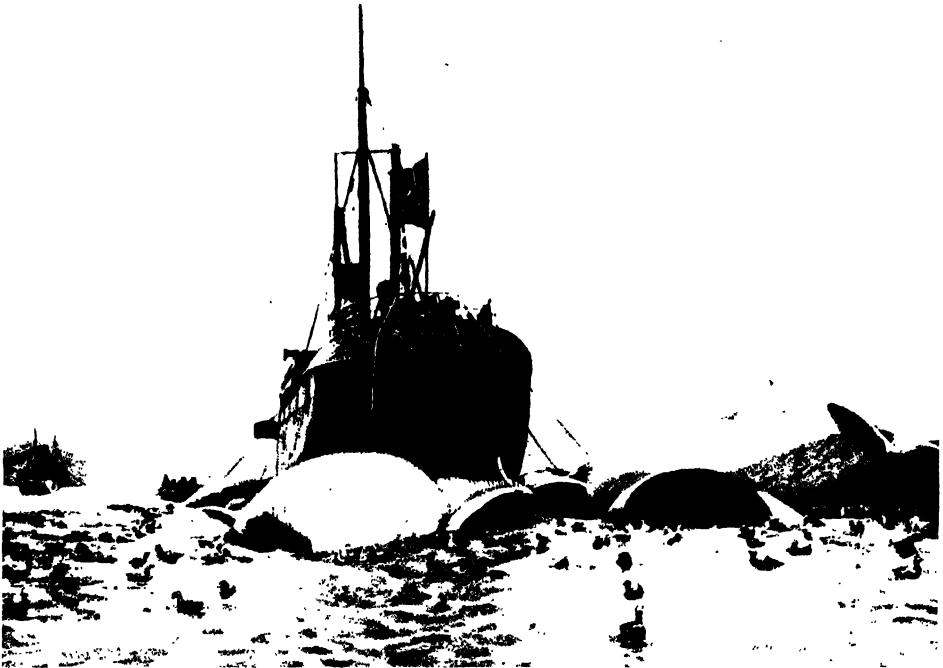
In summer the Arctic regions are the breeding place of millions of birds belonging to more than two hundred species. They are sea birds and land birds—sparrows, sandpipers, plovers, many species of both ducks and geese, cranes, swans, gulls, terns, ravens, owls and hawks. Only one bird, the ptarmigan (several species), makes a real habit of wintering beyond the forest, and even of these more than half cross southward into the woods, sometimes going as far in the western hemisphere as to the northern limit of the United States.

A large percentage of the owls remain well into the winter. I have seen them 300 miles north of the Arctic Circle as late as January, but I do not recall ever seeing owls in February or March. Most of the ravens go south, but a few spend the whole year in the Arctic, some of them, at least, as far as 500 miles beyond the Circle. Some birds, especially the snow buntings, come in spring long before the snow goes away,

but these usually leave in the autumn. Sea-gulls are found in the open water of the polar ocean well into the autumn, and they come back again in the spring while the frost is still well below zero. On the whole, the Arctic peoples make little use of the birds.

• Potatoes, turnips, lettuce, carrots and many similar roots are cultivated a little beyond the Arctic Circle in

It has been found that reindeer prosper better the farther north they go. The most successful ranching is now being done between Kotzebue Sound, which is on the Arctic Circle, and Barrow Point, which lies about 250 miles farther north. There are millions of domestic reindeer in Arctic Siberia, and it seems likely that as transportation improves Siberian reindeer meat will



NORWEGIAN WHALERS AND THEIR MIGHTY CATCH

Spitsbergen is among the most exploited of the Arctic Lands. Though many miles to the north of the coast of Norway, it has been for several hundred years a resort of whaling vessels. One of these is seen above with a number of carcasses, partly inflated for the sake of buoyancy, moored alongside. The islands of the group contain good coal, asbestos, oil shale and iron ore.

Alaska, Canada and Siberia, and cereals have been produced in a more or less experimental way. It seems to be generally agreed, however, that the people who colonise the Arctic are likely to import their vegetables and cereals from the south, getting them in exchange for minerals, fish, furs and especially for the meat which is already being produced on a commercial scale in Alaska (reindeer meat). The reindeer industry has also been started in Baffin Island on a commercial basis and other enterprises are on the way in Labrador and elsewhere.

begin to appear in considerable quantities on the European market.

Coal has been found on nearly every island north of Canada, as well as in large quantities in Arctic Canada and Arctic Alaska; the like will doubtless be true of Arctic Siberia when it is further explored. The American Navy has set aside as a government oil reserve the western half of Arctic Alaska, and oil has been produced in an experimental way on the Lower Mackenzie just around the Arctic Circle. Signs of oil have been reported from many other places. Great copper areas are known



E. N. A.

GRIM MONUMENT TO THE POWER OF THE ARCTIC WINTER

Not infrequently has it happened that traders visiting the archipelago of Spitsbergen have been caught by the sea freezing earlier than usual, and thus have been forced to winter there. Cairns like this mark the graves of those who failed to survive. Food is scarce, for the game has suffered from wasteful hunting

to exist, the chief, perhaps, around the Coppermine river, Coronation Gulf and southern Victoria Island. There has been extensive gold mining just south of the Circle, notably around Nome in Alaska and Dawson in the Yukon. Further prospecting may show precious minerals in paying quantities to the north, where indications of them have already been found. Similarly there is gold mining in sub-Arctic Siberia, and it is likely that this will spread into the Arctic proper. Indications of iron have also been found in many places.

From a mining point of view, no strictly Arctic country is at present so far advanced as Spitsbergen, the south tip of which is about 600 miles north of the Arctic Circle. Coal has been produced there on a commercial scale, and the engineers in charge of the work expect that the Spitsbergen mines will eventually supply the growing needs of northern Russia and Finland. Some enthusiasts assert that mining can be done so cheaply there that import of Spitsbergen coal into the British Isles is a probability of the near future.

Golden Age of the Whaling Industry

The search for minerals has been taking Europeans to the Arctic intermittently for several centuries, and continuously during the last half century, and people who go north in search of gold frequently remain as trappers, fishermen or reindeer ranchers.

Commercial fishing has been in progress in the Arctic for centuries. Spitsbergen was an important Arctic centre of this industry from the time of Hudson's voyage, which gave England a claim to the country. A great whaling industry was also conducted in Greenland waters, in Baffin Bay and Hudson Bay. The whaling in the Arctic north and east of Bering Straits was chiefly for whalebone. At the highest market the 2,000 pounds of whalebone obtained from a single bowhead gave £2,000. I have talked with an American whaling captain who secured sixty-eight bowheads in a two-year voyage. Although

the price of "bone" was then somewhat lower, this voyage must have given the owners a net profit of £20,000 or £30,000 for the voyage, even after the shares of all the whalers had been paid.

Trading Corporations in the Arctic

Fortunes were being rapidly made in bowhead whaling as late as 1904. But about that time there were put on the market certain commercial substitutes for whalebone, which brought the price down from anything like ten shillings to twenty shillings per pound to sixpence or one shilling—a drop which changed a fabulously profitable enterprise into a definitely losing one.

At present there are whaling stations in the Aleutian Islands and Iceland, where Arctic and sub-Arctic sea animals are converted into oil and fertilisers. Some of the lean meat is dried until it can be ground up into a meal similar in appearance to cocoa. This is put in bags and sold for cattle and horse feed, evidently very profitably.

The commerce of the Arctic is carried on by a few great corporations and a large number of small private traders. The greatest of all the Arctic traders is the Hudson's Bay Company with a successful history of more than 250 years and a volume of business to-day which ranks it among the great trading corporations of the world.

Development of Meat Production

In the beginning, furs and fisheries were the only concern; mining and trading with miners have developed more recently and most recently of all the meat producing industry (domestic reindeer). With regard to the reindeer the biggest commercial operator has been the United States Government. A large private company, the Lomen Reindeer and Trading Company, owned 50,000 head in 1922. It is said that in northern Siberia numerous native owners have more than 10,000 head each. The Hudson's Bay Company has started into the business in southern Baffin Island, where they



GOOD ANCHORAGE FOR LINERS IN SPITSBERGEN'S GLACIER-FLANKED FJORDS

Large fjords indent the coasts of Spitsbergen and, like placid rivers, give fine anchorage for the largest ships. The mountains tend to give a false idea of the breadth of this sheet of water, but the apparent size of the great liner, which is comparatively close to the nearer shore, shows the real width. A glacier can be seen directly over the boats with its flanking ranges of snow-streaked peaks. This fjord is known as Smeerenburgsund, and is situated in the northern part of the archipelago. Spitsbergen has been made the base for several expeditions to the North Pole

landed about 300 Norwegian reindeer in 1921. It seems likely that the largest Arctic trading developments of the next few decades will be in connexion with meat export - except in Spitsbergen, where mining is certain to be for a long time of chief importance. Most of the trading is carried on by ocean-going ships and by river steamers on the Yukon, Mackenzie and the great rivers of Siberia.

The developments in wireless and flying will doubtless have a considerable influence on commerce and colonisation. There are already numerous Arctic and sub-Arctic wireless stations. Admiral Moffett, Chief of the Bureau of Aeronautics, U.S. Navy, has stated that he does not consider trans-Arctic flying more dangerous or difficult than voyages of similar length over the Atlantic Ocean or over tropical lands, and expects that within a few years there will be regular mails by air between the various Arctic lands and between England and Japan - the last by a trans-Arctic route running north from England and then south to Japan.

Prospects of Trans-Arctic Flying

General Sir Sefton Brancker, Director of Civil Aviation for Great Britain, said at Sheffield before the Institute of Transport, June 14, 1923, that he considered the carrying of mails from England to Japan by dirigible over the Arctic as a probability of the next ten years. This route is several thousand miles shorter than those at present used for carrying mails by steamer and rail.

From the point of view of the colonist and trader the Arctic is almost wholly a new country. It therefore has all the same transportation problems that any new country may have, and in addition that of dealing with the ice, of which there is more or less in the ocean in most places at most times of the year. But the fact that in northern North America the lakes and rivers are frozen over for about seven months each year makes sledge travel on a

great scale more feasible than it has been in any country. Sledges are much used already, whether drawn by dogs, horses or reindeer.

Caterpillar Tractors in the North

It seems probable that the caterpillar tractor will find great usefulness, since the snowfall in the Arctic is light and since tractors are already in successful winter use in countries of much heavier snowfall and about equal cold, such as Manitoba. It seems likely that even heavy freighting for considerable distance can be successfully done in most Arctic lands in winter by tractors hauling trains of sledges over roads which lead chiefly over the lakes, crossing from one lake to another where the divide between them is narrowest, somewhat as canoes are portaged in the summer months.

Generally speaking there are as yet few cities in the Arctic except in the Scandinavian countries and European Russia. The trading posts along the coasts of Siberia, Alaska and Canada consist usually of native villages, and from one to half a dozen or a dozen dwelling-houses occupied by white men.

At present many Eskimos live in houses built of lumber purchased from white traders in exchange for whalebone, furs or reindeer produce. The natives of Siberia are as yet keeping more to their original house-building customs, which is fortunate, for it is generally agreed that the considerable increase in tuberculosis and other diseases of recent years among Eskimos is due chiefly to the introduction of white men's houses and housekeeping methods modified of necessity by the ignorance and conservatism of the natives.

Healthy and Happy Eskimos

The anthropologist, Diamond Jenness, has said of the "uncontaminated" Eskimos of Coronation Gulf who live entirely in native style both as to food and houses—the food being more than 99 per cent. flesh, either meat or fish—that they "have no diseases." After

living among the same people—four years before Mr. Jenness—I had said of them in a book that they were on the average the healthiest and most contented human beings I had ever seen.

Injurious Effects of Civilization

When this is contrasted with the general verdict of travellers that the "civilized" Eskimos are less healthy than ordinary Europeans, we see that the effect of the change in housing, which is usually agreed upon as the main cause, is serious. Other causes for decline in health are the adoption, in deference to fashion, of white men's clothes, which are less suited to an Arctic environment; the adoption of white men's food, which is frequently badly cooked and for various reasons unwholesome; the importation of white men's diseases; and, to a rather less extent, alcoholism.

Before the coming of the white man the Eskimos had various kinds of winter dwellings: snow houses (never "ice houses"), earthen houses with a framework of wood, earthen houses with a framework of whales' bones and rock, and beehive-shaped houses made of a basketry-like framework of willows with a covering of moss and skins.

All of these native houses had the great advantage of being practically impervious to cold. They were therefore heated to a comfortable temperature with a minimum of fuel. This was usually the fat of some animal burnt in native lamps which the women trimmed so carefully that there was neither odour nor smoke.

Advantages of the Native Houses

The snow house is unknown to the Eskimos of Siberia and of Alaska, and unknown also in the southern half of Labrador and in most of Greenland. The snow house is known, but used only in emergencies, in North-West Canada west of Cape Parry, and in those parts of Greenland where this form of building is not quite unknown. The most northerly Eskimos—those around Cape

York, Greenland (frequently mentioned by Peary and other travellers)—live in earthen houses although they frequently use snow houses on journeys. The only region where the snow house is the main winter dwelling is the Canadian mainland between Hudson Bay and Cape Parry and the islands north of Canada.

Even where snow houses are used, their season is shorter than commonly supposed. In summer the (uncivilized) Eskimos live in skin tents. In the autumn they still live in tents until the temperature gets to the vicinity of zero F. which in such places as Coronation Gulf would usually be in October, although in 1910 it was not until early November. In the restricted areas where snow houses are the main winter dwellings they will then be used through the months November–March.

Indoor Temperature of Snow Houses

Taking Coronation Gulf again as an example, in 1911 all the Eskimos lived in houses of snow until the middle of April, when some of them began to use composite dwellings snow walls with caribou skin roofs. Before May 1 they were all living in tents—when the snow was beginning to disappear.

The Eskimos usually keep their dwellings hotter than would seem agreeable to Europeans. It is not possible to keep the interior of a snow house very warm unless the weather outdoors is very cold; the colder the weather the warmer the house if the fuel supply is adequate. This is because the amount of fuel that can be burnt without melting the house depends on a balance between the outer cold and the inner warmth.

If the temperature outside a roof four inches thick is 40° F. below zero, but inside the roof 50° F. above zero, then the outdoor temperature is about 70° F. below freezing and the inside temperature about 20° F. above freezing. The outer cold penetrates through and meets the house temperature at the inner side of the roof, thus preventing the snow from thawing.

Sometimes the Eskimos intentionally overheat the house—to, say, 70° F. or 80° F.—for half an hour or so until the four-inch roof melts down to a thickness of say two inches and a half, whereupon they decrease the heat, allowing the interior of the house, which is then soggy snow, to turn into ice. This glazing strengthens the house and makes it safe to touch the wall which is no longer crumbly snow but ice, in its texture somewhat similar to glass. When the roof has thus been thinned down the interior temperature can be correspondingly increased—up to, say, 55° F. or 60° F. above zero, if it is 40° F. below outdoors.

If a higher temperature than 60° F. is desired within a snow house, it is lined with a sort of skin tent supported by strings from the roof. It can then be brought up to any desired warmth. Such lined snow houses, as well as the earth or moss houses, are frequently heated to 80° F. or 90° F., and some times up to 100° F.

Tropical Heat in Arctic Winters

In most districts the Eskimo children play around naked within doors. In Greenland and some other places the older people sit completely stripped, rivers of perspiration running down their bodies. In the Mackenzie district and northern Alaska, the custom up to about fifteen years ago was that both men and women within doors sat stripped below the knees and above the waist. Just before going out they would rub themselves dry with some sort of towel, slipping on their clothes and running out in a hurry so as not to become damp with perspiration.

Since the skin clothes of the Eskimos are practically coldproof, this means that throughout the winter they are exposed to almost tropical heat—for it obviously does not count how cold it may be outside of your clothing if you have a tropical heat (80° F. or 90° F.) between your clothes and your body. This is probably the chief reason why Eskimos mature about as early as the

peoples of the tropics. Eskimo women have been known to have their first child before they are eleven, and children before the age of thirteen are common. Such women are grandmothers at twenty-five and appear as old at sixty as English people do at eighty or ninety; seventy-six is the highest age that I have ever been able to verify for an Eskimo. This is a somewhat difficult point, however, for they take no interest in their ages.

When Travelling is General

In certain districts the Eskimos cannot count above six. In other districts they count to 400 (twenty twenties), but in either case the age of all but the youngest children has to be determined by reference to some event known to white men, such as the arrival of the first whaling ship or the introduction of firearms.

The Eskimos generally live in villages. There is usually a communal or club house where songs are sung and stories told, and where dancing and religious ritual are carried out. In those parts of the Eskimo country that are north of the Arctic Circle there is only a short period of daylight about noon in mid-winter. It is therefore difficult to hunt or do regular work, and so this has naturally become the vacation period when whole families or groups of families make long journeys to visit distant relatives or friends, sometimes travelling two or three hundred miles. Journeys of as much as 1,000 miles and requiring a year to make are for trading purposes and usually begun in March or April with a return either that autumn or the following spring.

Racial Qualities of the Eskimos

The winter houses have varied locations. In Alaska and on the Mackenzie they are sometimes in the forest, but more usually the people hunt towards the forest in summer, moving out upon the open coast in winter. In Alaska the winter villages are therefore usually on the coast, but

in such parts as Coronation Gulf they are nearly always out on the sea ice at from five to twenty miles from land.

More than two-thirds of the Eskimos can be fairly considered a coastal people. Some live exclusively on caribou and other inland game and fish, but most of them either come down to the sea at some time or else import a little sea food—at least seal and whale oil. There are small communities where seal is almost the exclusive food; and others where seals are unknown. In certain districts, such as the deltas of the Yukon and Kuskokwim, fish was the only important article of diet.

Most authorities consider the Eskimos as merely one kind of North American Indian, although a few maintain that they must have come from Asia more recently than the rest of the North Americans. A fairly general view is that between one and two thousand years ago they were at a centre between the Mackenzie and Hudson Bay from which they spread westwards into Alaska and eastwards into Greenland.

It was formerly believed that when they began to spread they were ignorant of pottery-making and that only the Alaskans learnt this art when they came

in touch with pottery-making Indians. It has been one of the results of my own expedition to show that from Coronation Gulf westward, pottery was in common use among the very earliest inhabitants of whom we have any archaeological traces. Pottery-making is therefore an art which the Eskimos generally have lost at some period during the last thousand years.

Without pretending to offer an opinion as to any fundamental superiority of brain of one race over another, my own observation has been that the Eskimos, whether children or adults, have about the mental alertness and other qualities which I would expect to find among people of European blood if brought up in an equally isolated manner and in a similar environment.

Some travellers insist that the Eskimos are more optimistic, more universally happy than Europeans would be in the same circumstances. My view here is that this happiness is, generally speaking, the result of exuberant good health. Nearly all Europeans observe in themselves similar optimism and cheerfulness in the Arctic, but I will simply remark that it is difficult to be miserable under conditions of perfect physical fitness.

ARCTIC LANDS: GEOGRAPHICAL SUMMARY

Natural Divisions. Lands approximately within the Arctic Circle forming the land portion of the Arctic basin in contrast with the Antarctic continent. Usually lowland with a gentle rise inland from the coast. Greenland and other islands are elevated.

Climate. Two types coastal and continental. Continental with great extremes of temperature and little precipitation either as rain or snow towards the areas of North America and Eurasia remote from any ocean. Coastal with a cold climate sometimes on the average for the year below freezing point, a small range of temperature and considerable precipitation; largely influenced by the ocean currents, North Europe being considerably warmed by the west wind drift of warm Atlantic water. Long spells of sunlight during half the year, and little sunlight during the northern winter.

Vegetation. Tundra or Arctic prairie with a frozen subsoil, many species of flowering and other plants of small size

and rapid growth. Bounded on the south by coniferous forest, but containing, wherever local conditions are favourable, northward projections of forest growth. The tundra provides sustenance for ovibos and caribou, the latter distinct from the woodland caribou of the forest. Reindeer pastures promise a future addition to the world's meat supply.

Natural Outlets. Although continuous voyages have been made along the Eurasian and North American coasts, sea traffic is practically limited to short coastal stretches near the openings to the Atlantic and Pacific Oceans. Natural outlets are overland, chiefly along river valleys.

Outlook. Although with great trouble cereals and vegetables can be grown, progress will depend upon the marketing of reindeer meat and fish and upon the discovery and exploitation of minerals such as Spitsbergen coal. Natives provide furs and skins for the great fur-trading companies of America and Siberia.

ARGENTINA

Land of Vast Pampas and Far Horizons

by F. A. Kirkpatrick

Author of "South America and the War," etc.

L REPUBLICA ARGENTINA—the Silver State; El Rio de la Plata—the River of Silver. The sonorous titles, reminiscent of illusions cherished by early explorers, evoke an imaginative curiosity. To-day these phrases may be interpreted figuratively. The lands traversed by the great river are rich in everything but the precious metals, and its broad waters convey to the sea the products, not of the mine, but of the soil. For Argentina is pre-eminently the land of the Pampa, the prairie of South America.

From the Tropics to Arctic Seas

It is true that the area of the Republic exceeds 1,150,000 square miles

than nine times the extent of the British Isles—and stretches through a length of 2,300 miles. From its widest part, nearly 1,100 miles, it thrusts a broad rectangle northwards into the tropics; southward it tapers to the point of the continent and to icy island cliffs battered by Antarctic seas; to the west tower the volcanic snowy peaks of the Cordillera. Yet these remoter regions, though partly colonised long ago from Peru and Chile, may to-day be regarded as extensions from the central region, the level treeless plain of the Pampa.

The term "River Plate" is commonly applied to the sub-continent comprising that part of Spanish America which lies between the Andes and the Atlantic, and owes a certain unity to the vast water system of the rivers Paraná, Paraguay and Uruguay, whose united streams form the River Plate estuary. All these regions belonged to the Spanish viceroyalty of Buenos Aires. But upon winning independence, the

provinces of Uruguay and Paraguay, marked off by distinct water boundaries, broke away to form small independent republics. The Andean province of Upper Peru now Bolivia—was also detached. But the fourteen provinces, theoretically autonomous states, which finally constituted the Argentine Confederation, formed a distinct area in a geographical, a historical and an economic sense. They cover the area stretching west and north west from the River Plate estuary. For southwards the frontier, held against savage Indian tribes was hardly 200 miles from the capital. Through the campaign known as the "Conquest of the Desert" in 1878-9, and the subsequent advance of white settlement, the territorial claims of the Republic became a reality and demanded a series of agreements defining the frontiers. The most important of these was the arbitration of King Edward VII. which fixed the Andean boundary in 1902.

Unity Due to the Great River

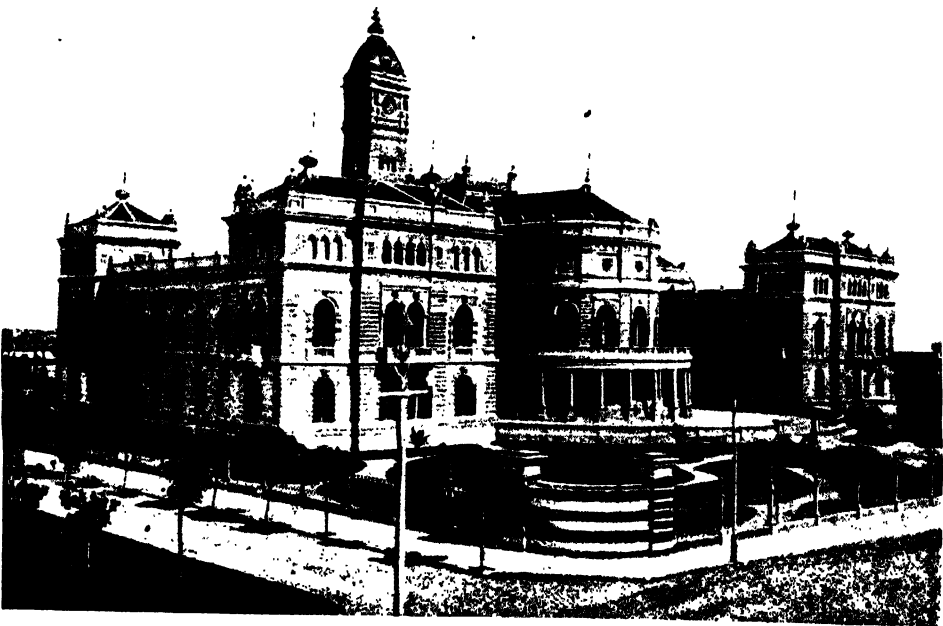
The Argentine Republic is bordered on the west for nearly 2,000 miles by the gigantic barrier of the Cordillera, and on the east for 1,500 miles, in its southern part, by the Atlantic. Farther north it is separated from Uruguay by the river of that name and by the River Plate estuary; from Paraguay by the river Paraná and its affluent, the Paraguay; from Brazil by the river Uruguay and by affluents of that river and of the Paraná. The river Pilcomayo separates the Argentine part of the Gran Chaco from the Paraguayan part. In the mountain masses of the far north and north-west, where natural boundaries are not

distinct, the Bolivian and Chilean frontiers have been fixed by agreement. In the south of Patagonia and in Tierra del Fuego the boundary is an artificial one, fixed by a treaty based on historical and national considerations which leaves in Chilean hands the shores of Magellan Straits. The country has thus achieved a recognized unity.

Argentina also possesses a distinct economic and political unity due to the great river. For to the older and more settled parts, which formed the original Argentina, the only channel of commercial, social and diplomatic intercourse with the outside world is by the estuary of the River Plate through or past the port of Buenos Aires. This unavoidable connexion with Buenos Aires has been the determining factor in frustrating provincial efforts at division and preserving the unity of the Argentine Confederation.

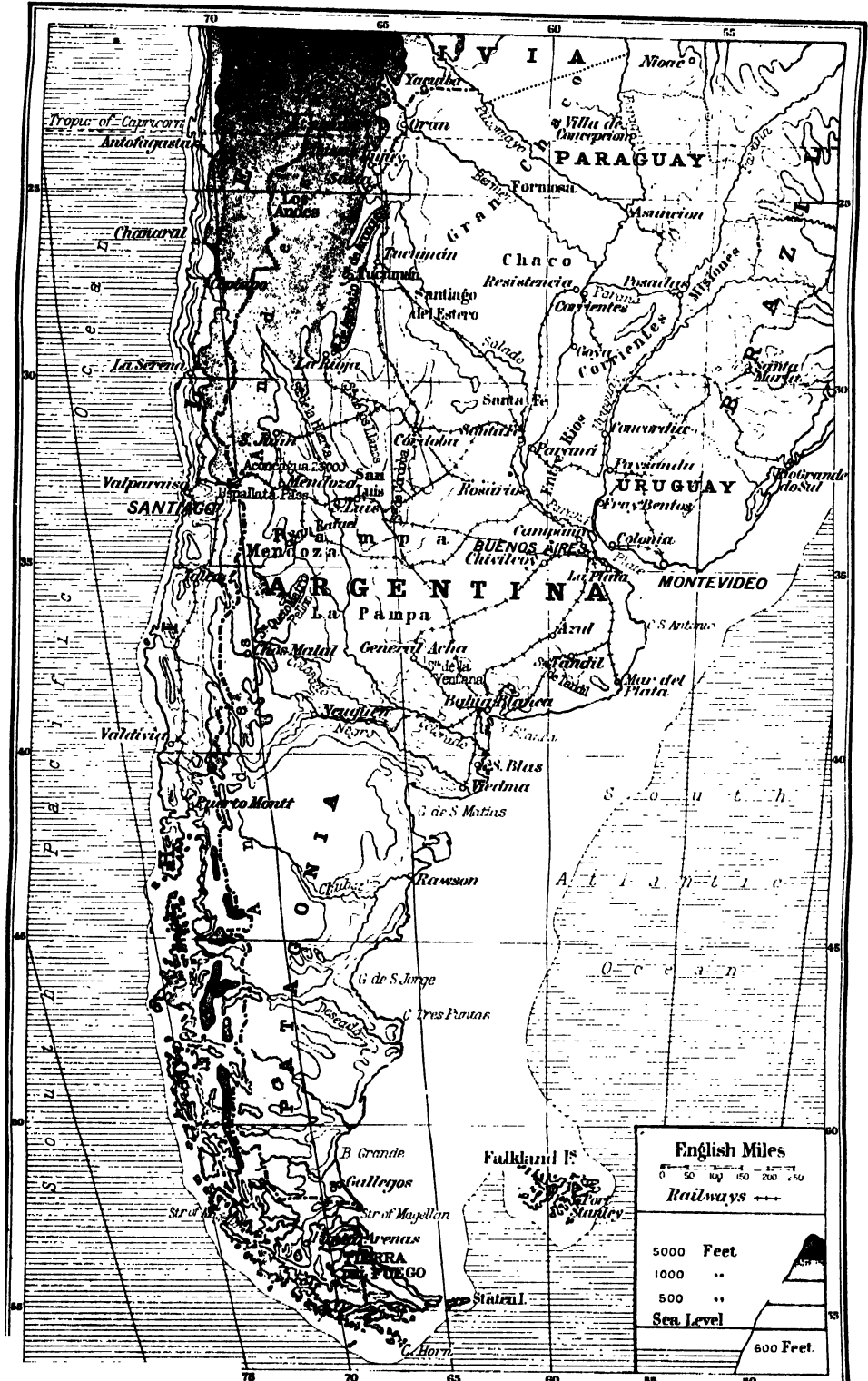
Former discontents in the other provinces concerning the predominance

claimed by the city and province of Buenos Aires were allayed by the separation of the capital from the province of Buenos Aires. The city of that name since 1880 has formed a Federal district belonging to the nation, to the fourteen provinces, and not to any one province. By the settlement of the Rio Negro district about the same time and by later advance both southward and northward, the Republic has taken effective possession of its own territory which now embraces, in addition to the fourteen provinces, ten national territories (*gobernaciones*), which cover two-thirds of the area of the Republic, although they contain but a fraction of the population. They are administered directly by the Federal government, and have not been erected into constituent members of the Confederation. Four of these territories lie in the extreme north; one territory, that of La Pampa, is in its general character an extension of the province of Buenos



MUNICIPAL BUILDINGS OF A MODERN ARGENTINE CITY

The growth of La Plata has been remarkably rapid. In 1882 its corner stone was laid in a barren waste a few miles from the village of Ensenada, on the southern shore of the La Plata estuary. Less than three years later it had a population of 30,000, and nearly 4,000 houses were completed or in course of construction. In 1922 its inhabitants numbered approximately 151,000 persons



ARGENTINA: THE FAR-SPREADING PAMPA 'TWINX CORDILLERA AND ATLANTIC



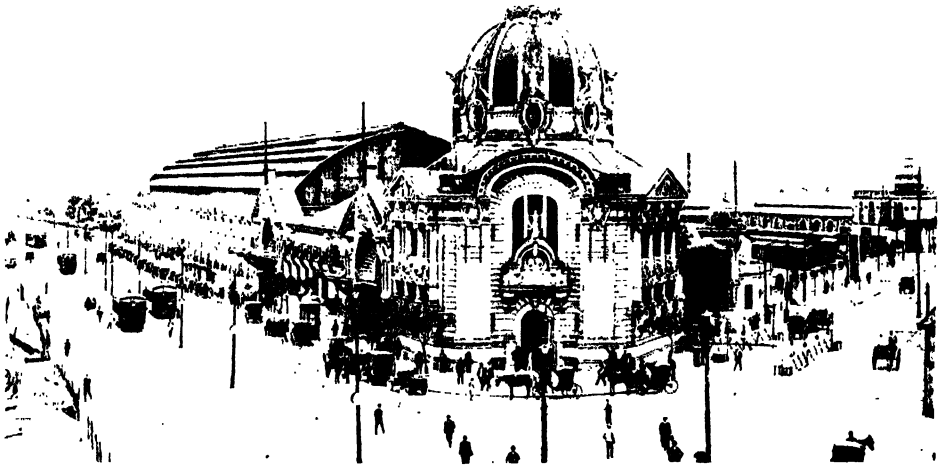
THE "WHITE BAY" CITY: PANORAMA OF BAHIA BLANCA, A GROWING SEAPORT OF ARGENTINA

The city of Bahía Blanca is rapidly developing in size and prosperity, due, to a great extent, to its deep and well-protected harbour which has made of it a seaport and naval station of no mean reputation. It lies on the Naposta, three miles and a half from its mouth in the bay and 425 miles by railroad south-west of Buenos Aires. It is the focus of several important railway lines and has excellent facilities for handling cargo. The town is well planned, attractively built, and has hospitals, parks, electric lighting and a wireless station; it has a population of approximately 150,000.

Aires and of its western neighbours; the remaining five south of the river Colorado, are described in the chapter on Patagonia and Tierra del Fuego.

Thus the natural avenue leading to the capital and to the most characteristic parts of the Republic is the broad estuary of the River Plate. From its low flat shore stretches the vast plain of the Pampa formerly covered with coarse grass and supporting only scanty Indian tribes. This savage period was followed by the reign of the half barbarous gaucho, the mounted cowboy, tending vast herds on unenclosed lands, the forerunner of the

and to the limits of Patagonia. The Pampa, to the eye, presents an unbroken flat immensity, as interminable and undisturbed as the sea, with something of the majestic monotony of the sea. The traveller, day after day, seems to be surrounded by the same landscape and the same horizon, except when, under the blazing summer sun, the mirage creates the illusive image of cool waters and leafy groves. In reality the land is not dead flat, but sweeps in long gentle undulations, with frequent lagoons and swampy places. Moreover, the Pampa slopes, rising imperceptibly westward towards the



IMPOSING STATION OF THE FERRO CARRIL DEL SUD AT LA PLATA

The handsome and well kept city of La Plata, laid out on the same plan as Washington, boasts many public squares and parks. The fortunate situation of this port, which is connected by railways with nearly every province of the Republic, has brought to it much prosperity. Among its principal buildings are the cathedral, university, museum and Southern Railway Station.

modern age, the age of fenced estates, machinery, tillage, and neat estancia houses. From Mar del Plata in the east the plough could be driven, meeting no obstacle but the rivers, 700 miles towards Mendoza and almost as far towards Córdoba. About 200 miles south of the capital, the level is broken by hills, the Sierras de la Ventana and de Tandil. Beyond these hills the plain, though less uniform, continues its general character to the basins of the rivers Colorado and Negro, where irrigation has turned lands once dry and sterile into rich farms and orchards,

Sierra de Córdoba and the foothills of the Andes. In the west of the province of Córdoba the soil, less deep and rich, is covered with low scrubby wood. But the far more extensive treeless plain, with its deep fertile soil, always moist below the surface, provides 250,000,000 acres of arable land—the famous cereal zone which stretches from the river Salado in the north to the Colorado in the south.

This open plain has been the making of modern Argentina. But there is much more; the country comprises every habitable altitude and every



EASTERN END OF ROSARIO, A BUSTLING RIVER PORT OF ARGENTINA, VIEWED FROM THE JOCKEY CLUB TOWER
On the Paraná river's right bank, 175 miles by railway north-west of Buenos Aires, stands Rosario, the capital of the province of Santa Fe. Many railway lines radiate from the town connecting it with all parts of the Republic and traversing territory rich with produce and commercial opportunities. Until the middle of last century Rosario was a mere village; its growth has been rapid, and it is now the principal port of the north provinces, its wharves being reached by ocean as well as by river vessels. It is an important commercial centre with an extensive export and distributing trade, and contains the largest sugar refinery in the country.

latitude from the Tropics to the Antarctic, with endless varieties of relief, soil, aspect, products and general character. Before examining these, a broad division into mountain and plain may be indicated. The mountains are: the Andes, in the west; the Sierra de Córdoba, midway across the continent, with its extensions north and south into Santiago del Estero and San Luis; the hills of Tandil and La Ventana; and lastly the remote, almost detached territory of Misiones, which belongs geographically to the Brazilian uplands. The plain, treeless in the south, wooded in the north, stretches from the north frontier to the river Colorado.

Mountain Ranges and Broken Plains

But sub-division is necessary; besides the central region or Pampa—already described—it remains to treat (a) the northern extension of the Pampa through the subtropical and tropical region of forests and streams, (b) the Andean and sub-Andean region in the far north-west, (c) the western region, that is to say, the strange broken country between the Sierra de Córdoba and the Andes; with the slopes, valleys and plains lying at the foot of the Andes from La Rioja to Mendoza. Lastly, the Andean Cordillera extends along the whole length of the Republic, possessing a general mountainous character of its own, but passing through every zone and every gradation of snow-line.

The path to the north leads by river steamer up the stream of the Paraná and of its chief affluent, the Paraguay, with their chain of river-ports, past the provinces of Santa Fé, Entre Ríos, Corrientes and the territories of Misiones, the Chaco and Formosa. Entre Ríos, the Mesopotamia of Argentina, is an extension of the Pampa but is more undulating, wooded and varied in character; it is still largely pastoral; tillage is increasing and finds outlet for its produce by the two great rivers which embrace the province.

Most of Santa Fé belongs to the cereal zone, but the province stretches far north into the forest region which covers Corrientes, and extends here more tropical in character—over the Chaco. The plain is still unbroken, but is now wooded, rich in varied and abundant timber, intersected by innumerable streams, dotted with many swamps or lagoons, and interspersed with stretches of open savanna.

Tropical Luxuriance of the Chaco

The Chaco teems with tropical luxuriance and colour, and with the multitudinous life of beasts, reptiles, saurians, fishes, birds and insects. Its muddy streams with devious shifting courses spread out into frequent pools and marshes, the haunt of innumerable water-fowl. To-day the open spaces are grazed by cattle; the timber is being cut, particularly the great and hard quebracho, rich in tannin; and the chimneys of tannin-extracting factories vomit their smoke among the primeval woods.

Many of the native Indians work as peons in those industries, but in remote thickets lurk scanty tribes, untouched by the oncoming wave of civilization. The south-west part of the Chaco, remote from the rivers, is a dry region, extending across Santiago del Estero where occasional *bañados* or flooded lands admit pasture.

Fertile Regions and Salt Deserts

Westward again rises the hilly country, partly wooded, partly bare, of the sub-Andean and subtropical north-west, enclosing in its midst the rich sugar district of Tucumán, where the soil is kept moist by mountain mists and irrigation increases the cultivated zone. Further yet stretch between the Andean peaks the bleak heights where Argentina divides with Chile and Bolivia the desert plateau of Atacama, rich in borax and copper.

Between the Sierra de Córdoba and the Cordillera lies a confused and fantastic region of broken hills interspersed with salt deserts and lagoons,



JAGGED MOUNTAIN WALL OF THE MIGHTY CORDILLERA THAT INTERSECTS THE WESTERN REGION OF SALTA PROVINCE
Salta, the northernmost province of Argentina, is very mountainous in the west, the highest peak rising to 20,000 feet; while in other parts extensive salt swamps, fertile valleys, woodland tracts and pastures give variety to the landscape. Rich mineral deposits abound in the mountains, and include gold, silver, copper, iron and lead. In some of the dusty desert regions huge cacti are to be seen, like "weird skeletons, gaunt and stark," standing about the sandy slopes and dry plains. Crops are planted and thrive according to the altitude; in the lower fertile districts maize, alfalfa, sugar, coffee, tobacco and fruit are produced

also with plains and valleys varying in character but mostly excessively dry. Here are several separate systems of lacustrine or interior drainage, the rivers disappearing in the sandy soil or in the salt lagoons. Parts of this country are being fertilised by irrigation, and there is also promise of mineral wealth. Moreover, close under the Andes lie at intervals, forming veritable oases in this dry country, rich valleys and wide fields watered by mountain streams and clothed with vineyards and orchards. Famous among them is the rich irrigated land about the town of La Rioja. The towns of San Rafael and San Juan dwell upon more extensive

in character from the beautiful wooded alpine and lake country in the south to the bleak desert plateau of the north. The part stretching from Southern Patagonia to the snow-clad peak of Aconcagua, 23,000 feet, which towers above Mendoza, is on the whole a clearly marked single range, though spreading out into many spurs and outlying heights. North of Aconcagua the Andes divide into two or even three lofty ranges enclosing between them a plateau which widens northwards towards Bolivia and falls partly within the Argentine territory of Los Andes and the adjoining provinces. From the foregoing general description



ELEVATORS FOR GRAIN STORAGE AT PUERTO GALVAN, BAHIA BLANCA

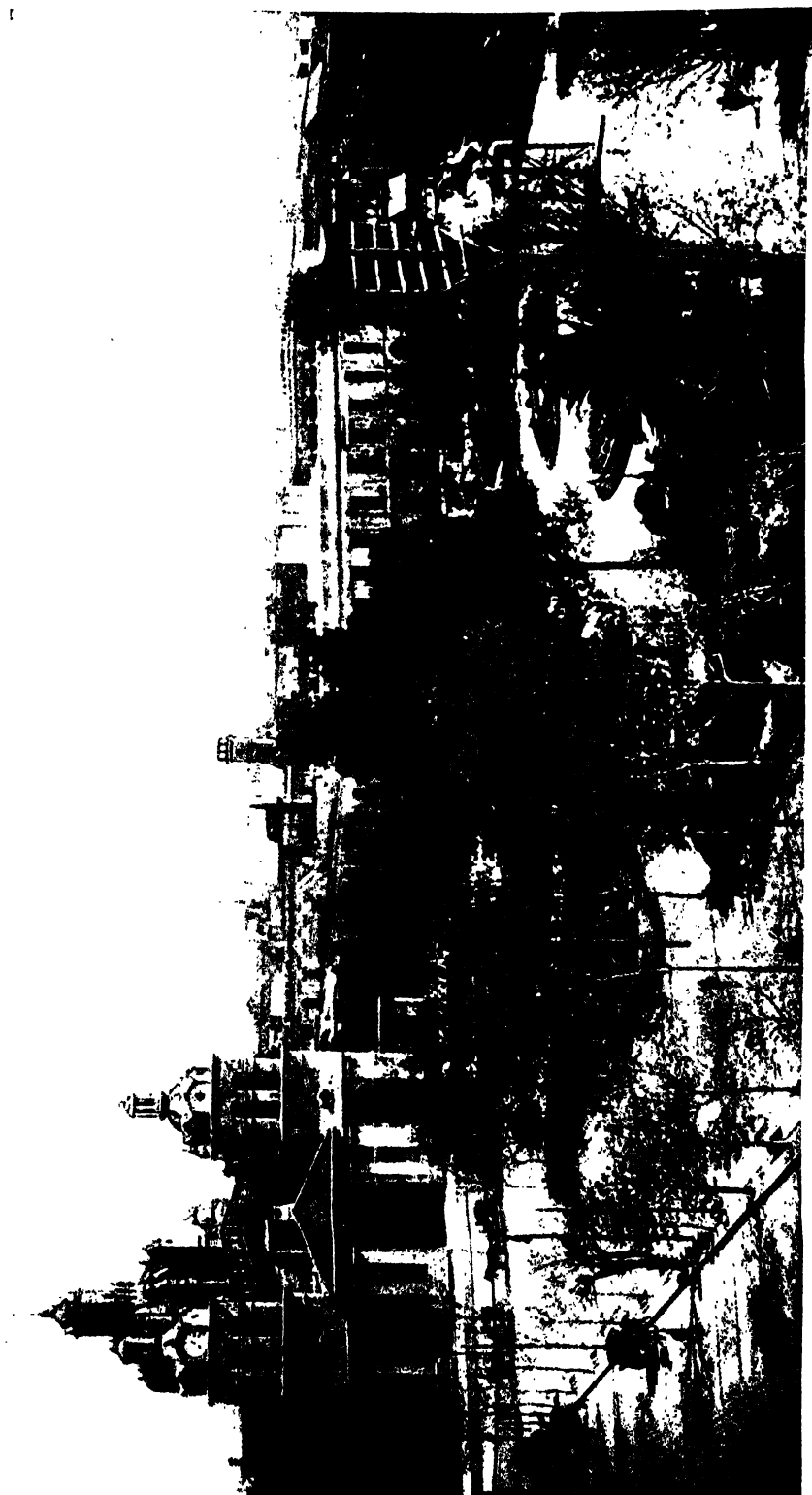
Bahia Blanca is charmingly situated at the head of a bay of the same name in the province of Buenos Aires. It is a busy seaport, and the seat of a considerable foreign trade. Its harbour is rapidly growing in importance, and serves the rich farming area of the neighbouring provinces by exporting cereals and wool, and claims one of the largest wheat shipments in the world.

irrigated ground. But most famous of all is the far-stretching wine-growing land of Mendoza where innumerable water-cuts, bordered by rows of poplars, intersect the vineyards. Where suitable conditions offer, the vineyards and orchards lie beyond the irrigated lands.

Every one of the regions thus briefly described embraces great diversities which baffle detailed treatment. Moreover, the volcanic range of the Andes, which extends along the whole length of the Republic, although it forms a distinct mountain system, or, rather, part of a continental mountain system, obviously in its great length through thirty degrees of latitude varies much

it will be evident that in considering the nature of soil, climate, vegetation, animal life and human occupation, emphasis must be laid upon the diversities of latitude, altitude and comparative distance from the sea.

The great cereal zone, the most populous and cultivated region of the Republic, is deeply covered for the most part with loose, fertile and easily worked soil. The land, once half desert and clothed with coarse native grasses, is now traversed by a network of railways and divided by wire fences into estates farmed after modern and scientific methods. The flocks of sheep have been pushed southward and wool is no longer



PLAZA SAN MARTIN OF CORDOBA. SHOWING THE SPANISH CATHEDRAL AND THE MUNICIPAL GOVERNMENT HOUSE
 Founded by the Conquistadores in 1573, thirty-eight years after the foundation of Buenos Aires, Córdoba, the capital of Argentina's central province, is the fourth city of the Republic in point of population and importance. It is surrounded by beautiful mountain scenery, and is famous for its university—one of the chief educational centres of the country, established in 1613 by the Jesuits whose stronghold the city once was—its Gothic cathedral well over three hundred years old, and its national observatory, which constitutes the "Greenwich" of Argentina. It is also the see of a bishop and is an important railway junction

the chief source of wealth. The pastures, much improved by years of grazing, support cattle of the finest breeds, and the far-stretching fields are rich with crops of wheat, maize, oats, flax and alfalfa. The climate of this central region, as generally of the lands lying west of it, resembles that of southern Europe and is congenial to immigrants from the Mediterranean lands. Near the Atlantic coast the cold never exceeds a slight frost, disappearing at dawn, and summer heat, though sometimes oppressive enough, is less extreme.

The interior has a more continental climate, with intenser heat in summer and occasional cold storms in winter and spring, sometimes even driving snow which melts as it falls. The cereal region suffers sudden great variations of temperature when the hot and moist north wind gives place to the cold rush of the *pampero*, the wind which sweeps from the south-west over the plain with something of the freshness, the force and the tonic properties of a sea gale. Notwithstanding its chilly force its coming is welcomed as a health-giving boon from the Pampa.

Climate of the Settled Regions

The climate of the more settled regions, even beyond the Pampa, varies less than might be expected in view of the range of latitude. The mean temperature of the twelve chief towns from Tucumán (Lat. 27°) to Bahía Blanca (Lat. 39°) varies between 60° and 70° F., and their maximum temperature between 100° and 111°. It is true that the interior cities, especially in the north, enjoy a considerable elevation, and those figures do not include the snowy south nor the low-lying northern forests. Yet the figures show that the more populous parts do not differ very widely in climate. Though the heat is sometimes extreme, Argentina enjoys a dry and therefore a healthy climate.

Alone of the southern continents, South America thrusts itself far down through the temperate zone; and most

of this southern region belongs to Argentina, which has been described as a temperate land in a tropical continent, a temperate land designed by nature for the seat of a populous and prosperous civilization.

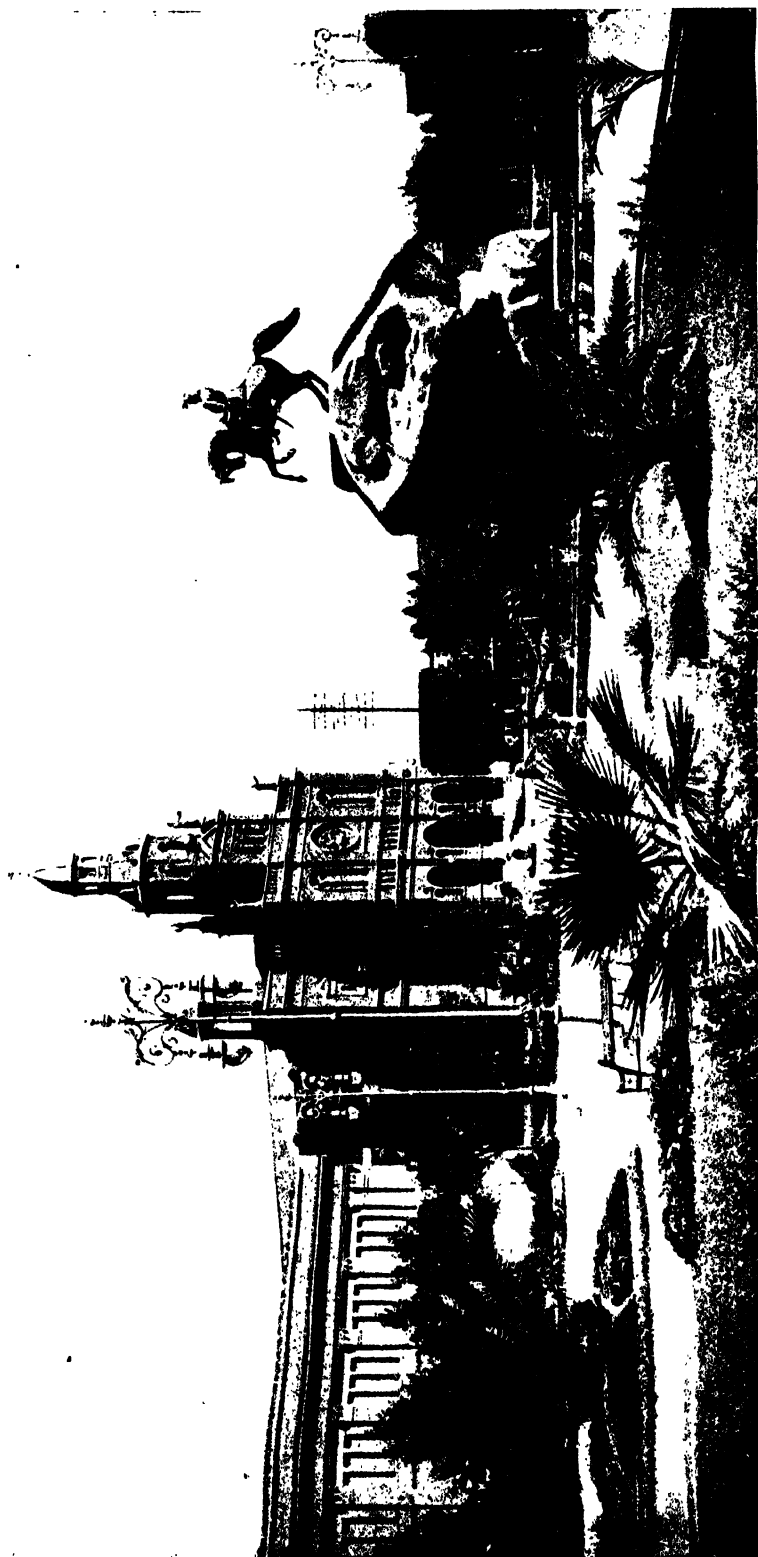
Recurring and Destructive Droughts

The central or cereal region is visited at irregular intervals by two plagues, drought and locusts. The rainfall is irregular and uneven, with no distinct rainy season, although rain is more abundant in summer. During the occasional periods of drought, which have lasted for three years or even more, the underground water never fails, and can still be raised by windmills, which are a familiar feature in the present-day landscape, or by more primitive methods. But the pasture turns to dust and the beasts die from want of herbage. Sandstorms, even during a short drought, sweep across the Pampa and penetrate the streets of the capital, darkening all the air and driving the people indoors.

The increasing dryness of the climate is evident from the fact that several rivers in Córdoba dwindle and disappear without reaching the river Paraná, into which they once flowed; and in the south-west there is an extensive basin of inland drainage, where formerly the more abundant waters flowed into the river Colorado, and so to the Atlantic. The rainfall diminishes westward; in western Córdoba many artesian wells have been sunk to remedy the scanty rainfall; and in the yet dryer sub-Andean region farther west, cultivation generally depends on irrigation.

Havoc Wrought by Plagues of Locusts

At irregular intervals—about once in seven years, say the country people—hosts of locusts from the far tropical interior fly over the land in dense clouds which shut out the sky. Wherever they descend to earth they devour all vegetation; and where they deposit their eggs a new generation of young



PLAZA SAN MARTIN IN MENDOZA CITY. THE SCENE OF MANY HISTORICAL HAPPENINGS

Mendoza, capital of the fertile province bearing the same name, was founded in 1550, and became later the chief town of the former Spanish province of Cuyo. It has many historical associations, and was the point from which San Martín, the skilful and patriotic South American soldier, whose memory is much revered by the people of Argentina, led his men in their celebrated march over the Andes in 1817 to glorious victories over Spanish authority. Mendoza is the chief centre of trade between Argentina and Chile with which it communicates by the trans-Andean railway extended in 1910 to Valparaiso.



CALLE SAN MARTIN. ONE OF MENDOZA'S PLEASANT STREETS, FRINGED BY LOW HOUSES AND LUXURIANT FOLIAGE
 Situated on the slope of the Andes at an altitude of 2,300 feet above sea-level, Mendoza presents a very pleasing appearance against its rugged background. Entirely destroyed by earthquake in 1861, when 13,000 people perished and only 1,000 survived, the town rapidly rose again on its ashes, and, thanks to the prosperity of its surrounding agricultural and mineral resources, quickly re-established itself as a commercial centre. The houses are built low and of whitewashed adobe brick, the trim and roomy streets being set off by tall, finely-foliated trees. Mendoza is especially noted for its fertile vineyards and prosperous viticulture



RACK RAILWAY AMONG THE HIGH PLACES IN THE ANDEAN REGION

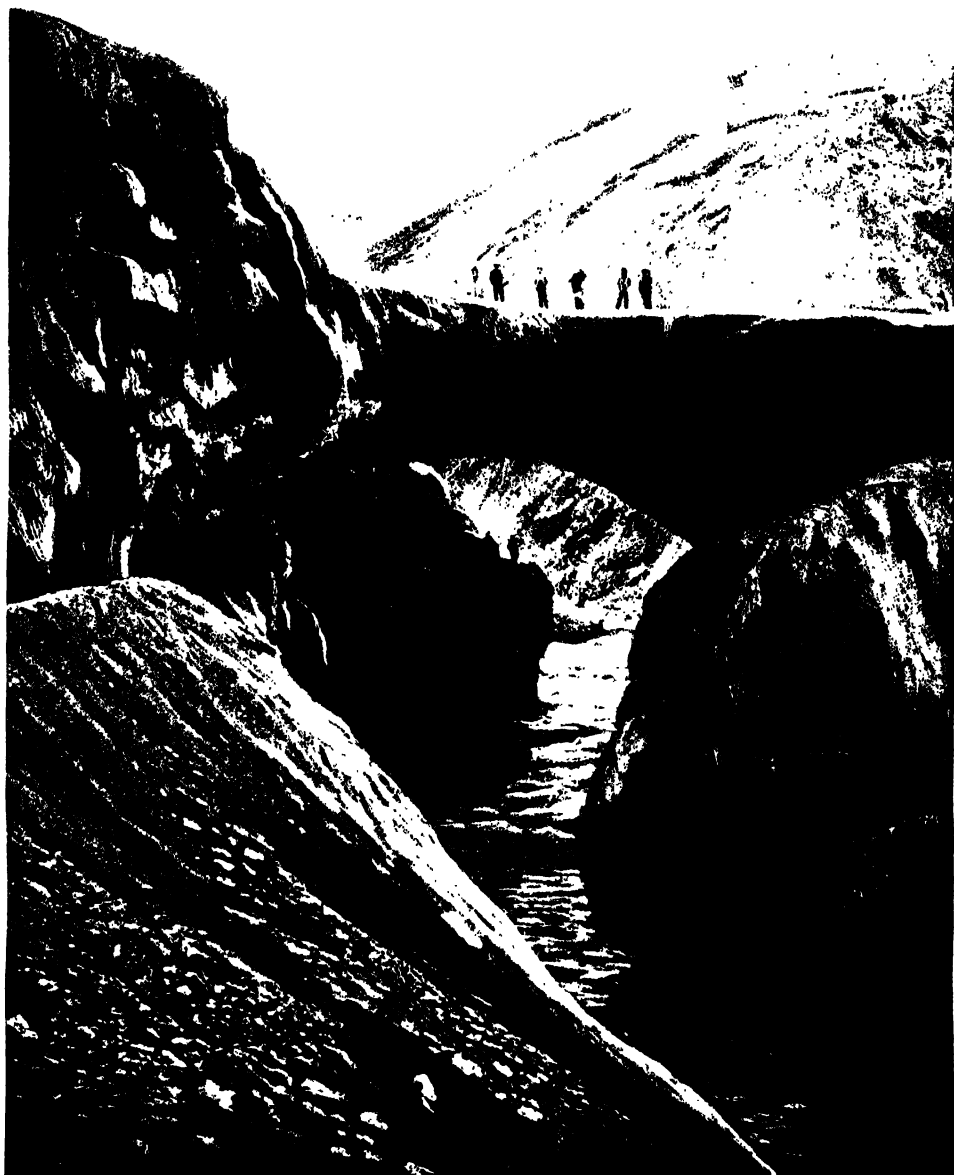
The trans-Andean railway connects Argentina with Chile. At its highest point, under the Uspallata Pass, it attains an elevation of 10,521 feet; it is constructed on the metre gauge, but, owing to the steepness of the gradients, the rack system has been adopted over a length of nearly twenty-two miles. The total length of the railroad from Buenos Aires to Valparaiso is 883 miles.

locusts or "hoppers," not yet winged, advances along the ground in destroying armies. The struggle against these insect invaders has been undertaken by the government as a national duty, and means have been devised to minimise the plague, chiefly by destroying the young "hoppers." These trials and difficulties of the farmer and vine-grower demand due mention, but not excessive emphasis. They have interrupted but have not seriously impeded the progress of the country.

The outstanding fact is the great recent creation of new wealth through the extension of scientific farming, both pasture and tillage, a development which means prosperity of the most valuable and durable kind, founded upon the working of the soil. The pioneers of this work had to contend with difficulties more constant and

more familiar than drought or locusts; their trials were such as beset all who lead the way through new lands: fatigue, exposure to heat, cold and rain, hard diet and hard lodging, danger in dealing with untamed beasts and with savage or half-savage men, primitive and precarious transport, remoteness from the conveniences of life. In the central region these obstacles have been overcome. In the remoter parts they are now being met and overcome.

The far north presents the difficulties characteristic of tropical forests: heat, moisture, sickness, distance from centres of life, barriers of dense interlaced vegetation, traversed with much labour in canoes along shifting and winding rivers and creeks obstructed by changing mudbanks and fallen timber, plagues of insects, and, in some degree, the hostility of untamable savages. The



PUENTE DEL INCA, THE NATURAL ROCK BRIDGE OF ARGENTINA

Puente del Inca is a frontier military post of the Argentine Republic, lying about seventy miles west of Mendoza on the route of the Andean pass of Uspallata between Argentina and Chile. It contains a railway station, hotel and medicinal baths, and takes its name from its famous natural bridge spanning the river Mendoza, which rises near Aconcagua and falls into Lake Guanacache



PASTORAL SCENES ON ARGENTINA'S GREAT PLAIN. THE CAMPO ON WHICH THE REPUBLIC'S PROSPERITY IS BUILT Extending from the Atlantic in a gentle, upward slope to the foothills of the Andes, where the altitude is about 2,200 feet, lies the great Pampa or prairie of Argentina. On this illimitable plain, grassy, treeless, except along the course of the rivers, and almost level, countless herds of cattle and sheep are pastured, tended by gauchos, the cowboys of the Pampa who are content to pass their lives in the saddle amid the silence of the boundless grasslands. It is these herds and flocks that supply the Republic with its main wealth, and furnish the meat, hides and wool that form its chief exports



ESTANCIAS OLD AND NEW THAT BREAK THE MONOTONOUS ASPECT OF THE PAMPEAN PLAIN

As contrasting with the plain in which they stand, the estancias of the cattle raisers of the Argentine prairie are usually surrounded with plantations of trees; and here, apart from the crowded haunts of men, as may be seen from a glance at these two photographs, the march of progress is manifest. While long, one-storeyed buildings such as that illustrated in the upper photograph still hold a dominant place, the old primitive huts made of an earlier day are slowly giving way to more substantial, commodious and better appointed structures similar to that seen in the lower view



WORLD-FAMOUS GRANITE ROCKING-STONE OF ARGENTINA

This enormous massive boulder, weighing 700 tons, so precariously poised that it rocks in the wind, and said to be the largest rocking-stone in the world, is found among the sierras of blue granite at Tandil, 250 miles south of Buenos Aires. Recklessly swayed by hand pressure, it is so perfectly poised that it can actually crack a nut without crushing it.

result is that the industrial conquest of the Chaco is to-day adding to the wealth and varied prosperity of the Argentine Republic.

In the more accessible and more settled parts of the forestal region, south of the Chaco, cultivation of sub-tropical as well as temperate crops is increasing. Extensive lands, especially in Corrientes, invite cotton cultivation, if sufficient labour were available. In the north-western region the pioneers of the sugar industry and of tobacco planting have overcome the early trials of fevers, local droughts, difficulties of labour and of transport.

On the whole, recent advance in the northern parts of the Republic is a striking example of the world movement which carries the European wave into lands formerly regarded as hardly within the range of white settlement.

The western region, partly hilly, partly flat, mostly dry but in parts traversed by mountain streams, is much

diversified. It is also less accessible to transport than the eastern plains. This western region is sometimes visited by the earthquakes which shake all the Andes. But its irrigated vineyards and orchards are striking examples of the taming of nature by man and of the replacement of a scanty, coarse and primitive vegetation by the elaborated products of a process of scientific and experimental cultivation.

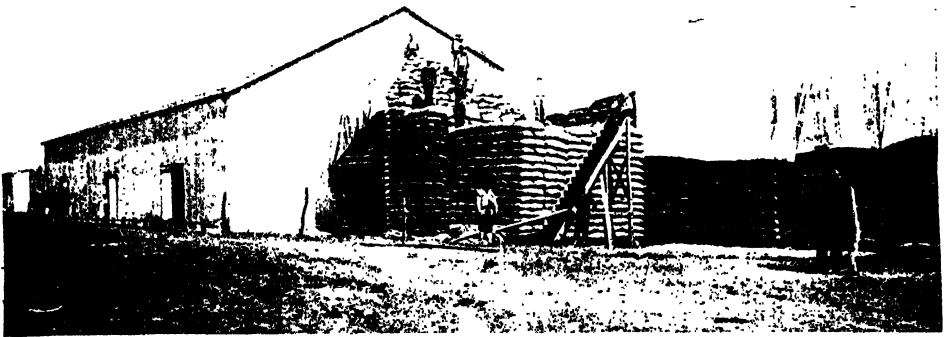
The same process, which may be almost called the education of the soil through an evolution or revolution in its vegetation, embraces the whole Republic, and falls broadly into two divisions: the central plain and the northern forest. As to the latter, little need be added; here the taming process consists in the invasion of the primeval woods rather than their transformation. The forest, in general, maintains its pristine character both in vegetation and in animal life. Not so the Pampa. The transformation

here effected is one of the wonders of our time. The plain was originally covered with coarse herbage, bright with flowers in spring and interspersed in the damper parts with the feathery and beautiful but unprofitable pampas grass. The monte or low woods of Córdoba cover the western part. This almost derelict and semi-desert plain has become one of the great granaries of the world. Its far-stretching fields are covered with alfalfa and with various grains, among which maize ("Indian corn") alone is of American origin. Wheat, flax and oats are introductions from Europe, as also the vine and various fruits which are grown for the solace of a population also mainly European in origin.

Equally striking has been the transformation of animal life. Horses, horned cattle and dogs, introduced from Europe, multiplied rapidly and took possession of the Pampa in a wild or semi-wild state, now swept away by the advance of the modern farmer. From Europe, too, came sheep, now numbering many millions, swine and domestic fowls. The hare, introduced in the early nineties, has increased to

undesirable excess. Yet the animal life of earlier days, though displaced and diminished, is not extinct.

Most notable was, and still is, the teeming abundance of bird life throughout every part of the country, from the gigantic condor and the "South American ostrich," or rhea, down to the humming-birds, which, tiny though they are, move southwards in summer over the Pampa region. The 500 kinds of birds baffle description or even enumeration, but perhaps the most characteristic sound of the Pampa is the ubiquitous and unceasing cry of the *tero-tero*, a species of plover, and one of its quaintest sights is that of the owls who sit gazing at the passing traveller. Mammals are abundant and distinctive, but include nothing comparable to the great beasts of Asia and Africa. The largest creature really native to the Pampa is the guanaco, for the carnivorous puma and jaguar were probably attracted southwards by the introduction of sheep and cattle. Small deer of several kinds abound, many rodents, foxes, opossums, the skunk with his beautiful fur and his offensive weapon of defence, the gregarious



GARNERED GRAIN FROM THE EXPLOITED SOIL OF THE PAMPA

The cereal region of the Argentine Republic embraces a large portion of the Pampa territory. The annual decay of the vegetation has produced a fertile soil which, in certain parts, yields abundant crops even without irrigation or fertiliser. The Pampa, thanks to the remarkable transformation wrought by ploughshare and locomotive, has become one of the great granaries of the world

burrowing viscachas, water-hogs, otters, and the quaint armadillos.

These last little creatures, with the sloth and the ant-eater, are as it were, dwarfed descendants of the uncouth monsters which, as their fossil remains show, haunted in long-ago ages the swamps and the low shores of lagoons, which were the diminishing remnants of the Pampean sea.

Vast Land Areas That Once Were Sea

For, in a yet earlier age the whole Argentine plain, both forest and Pampa, lay beneath the waters of a vast inland sea which extended from the limits of Patagonia northwards through tropical regions far beyond the present frontier. The Sierra de Córdoba and the Sierra de la Ventana, ancient rock formations, then much loftier than to-day, rose up as islands. While the younger Andean system was slowly pushing upwards in the west, the inland waters gradually shrank until their vast expanse was replaced by the vast expanse of a low fluvial basin whose deep soil to-day nourishes the forests of the north and the crops of the cereal zone. The fruit-growing delta of the Paraná and the land along its banks for 100 miles further inland are recent rich alluvium, where the great inlet once penetrated far into the continent.

Wealth in Mines and Manufactures

Though Argentine products are mainly rural, various and abundant minerals, chiefly in remote hills and mountains, await population and transport. The Cordillera conceals much wealth, from the borax and copper of the north to the gold of the far south. The Sierra de Córdoba and its offshoots are storehouses of future riches. Scientific exploration and improved transport such as the aerial cable which already serves some of the mines in La Rioja, are aiding the efforts of miners. But any extensive development is hardly to be expected for some time, in view of the prior attractions of other pursuits

in the Argentine and the greater mining facilities enjoyed by the Andean countries which border on the Pacific.

The chief industrial establishments are those closely connected with the primary occupations of tillage, pasture and forestal exploitation. The 50,000 factories set down in statistics include flour-mills, dairies, wine-presses, sugar-refineries, tobacco factories, tannin-extracting factories, meat-freezing establishments and even the old-fashioned "saladeros," where carcasses of beef are dried in the sun for export to Brazil and the West Indies—manufactures, in short, which denote an agricultural country, an exporter of foodstuffs and raw materials rather than a manufacturing country. But restriction of imports during the Great War gave impetus to an interesting movement of manufacture, notably in textiles and leather. Adequate skilled labour was available, and Argentina is adding to her other occupations manufacture for the home consumption of her nine million people.

Internal and External Transport

The needs of trade are served by many lines of steamers linking Argentine ports with those of Europe and, in a less degree, with those of the U.S.A.

Telegraph and cable services are excellent, and the Argentine railway system is connected with those of Brazil, Chile, Paraguay and Bolivia. The great river also serves as a channel of commerce with adjoining republics and of internal trade as well.

Internal transport is twofold: (1) northwards by the navigable rivers Paraná, Paraguay, Uruguay, apart from which there is little interior navigation; (2) by the 21,000 miles of railway, the great system which radiates from Buenos Aires intersecting the Pampa in all directions, and gathering to a second nucleus at Rosario and a third at Bahia Blanca. The flat Pampa is an ideal country for laying sleepers and metals, but the government is now pushing forward state-owned railways in more difficult country, both in the far

south and, in the sub-Andean region of the north-west.

The Pampa resists the making of roads. Owing to the deep, soft soil and the scarcity of stone, made roads hardly exist apart from the neighbourhood of cities. A country road is merely a track between parallel wire fences. Wet weather turns it into a swamp, into which the wheels sink deep. But, as elsewhere, motor traffic has had the effect of inducing efforts to improve roads.

allowances, it is evident that the towns are supported not by their own industries but by the land and that many who live by the land do not live on the land. In a new country, whose relations with the Old World are largely material and commercial, there is a tendency among some of the wealthy to spend ostentatiously and to regard the external adjuncts of civilization as constituting civilization itself. Against this tendency



SUN-CURED BEEF IN STORAGE UNDER TARPAULIN COVERS

These stacks are composed of "jerked" beef, or charqui—thin strips of meat with all the fat removed which have been thoroughly dried in the sun, a method of preservation widely adopted in many parts of tropical America. If cut from animals in sound condition this meat will become sun-dried before decomposition can set in, and may be preserved for an indefinite period.

Notwithstanding the rural basis of life, more than half the population inhabits towns. This conglomeration is partly due to the needs of commerce, of railway administration, of the whole business of government: cabinet, parliament, law courts, official departments; of education and science, universities, museums, colleges and schools. And all this professional activity requires, in addition a large working population. Yet, after all

may be set the more substantial culture visible in the museums and universities, in the organization of educational facilities from the primary school up to the university, and in a literature and dramatic art which are developing a distinctly native tone and character.

The towns, so far as the ground permits, are all built on the chess-board pattern prescribed in the sixteenth century, the rectangular streets enclosing equal "squares" or blocks of

houses which possess no garden or open space unless the patio or interior courtyard is preserved. The rectangular city plan atones for its monotony by an impression of deliberate design, of solid, permanent dignity and completeness; and in a new country a well-understood and uniform method of town planning has distinct merits. Modern estancia houses and villas near the towns vary much in style according to the nationality and tastes of the owner. Village life can hardly be said to exist, for even the smallest pueblos are distributing centres for wide areas and have the character of towns. Public hygiene is now well administered in the large towns, but the people generally require to be educated in this respect.

Rosario (250,000 inhabitants), the great grain port, the second city in the

Republic, is a fine city of growing importance and activity. The towns of Paraná, Santa Fé, Corrientes, Concordia, are smaller links in the chain of river ports. La Plata (151,000 inhabitants), capital of the province of Buenos Aires, represents, in its broad streets, handsome buildings and neighbouring port, the pride and ambition of the premier province. Bahía Blanca (150,000) is the seat of the naval arsenal and a growing port. Of inland cities the chief is Córdoba (160,000), a picturesque and an ancient place; it is the seat of the oldest Argentine university. Tucumán (100,000), seated on subtropical hills, looks out over the sugar plantations. To Mendoza (65,000), set at the foot of the Andes and facing eastwards towards the plain, the vineyards and watercourses give a distinctive character.

ARGENTINA: GEOGRAPHICAL SUMMARY

Natural Divisions. Eastern lowland—Gran Chaco, the interfluvial region between the Paraná and Uruguay and the Pampa. Plateaux of Atacama and Patagonia (q.v.) and the Central Highlands. In the west, the slopes and crests of the Andes.

Climate. Central continental climate of extreme temperatures, rainfall in summer and the south-west wind, the pampero; here the range of temperature is smaller than in the interior of other continents. North-west, an arid region with tropical temperatures affected by the altitude; cf. Atacama with the Kalahari and the Sahara.

Natural Vegetation. Grass land—the pampa; cf. the prairie of North America. Tropical forest in the north. Temperate forest in the south.

Rivers. Paraná and Uruguay in a trough parallel with the Brazil Highlands; cf. the Mississippi. Pilcomayo, Colorado, etc., flowing from the Andes eastward; cf. the Arkansas, etc., in U.S.A. No important rivers drain 250,000 square miles of pampa.

Chief Industries. Almost all the industries are based on the land. Sheep are reared south-east of the line from Buenos Aires to Bahía Blanca; they yield one-eighth of the world's wool. One-fifteenth of the world's cattle are reared in the interfluvial Santa Fé and Buenos Aires provinces. Except U.S.A. and Hungary no country produces so much maize. The tilled Pampa yields more than half of the wheat grown in the southern hemisphere. Alfalfa for fodder is a valuable crop. Sugar-cane,

tobacco, and cotton are grown in the warmer north.

Railways. Railways converge upon the ports Rosario, Buenos Aires, and Bahía Blanca, where ocean-going steamers can berth. The Pampa is covered by an extensive system based on these ports; only the main lines can be shown on the accompanying map. The trans-Andean line crosses the continent and connects Buenos Aires with Valparaíso and the main railway of Chile.

Natural Outlets. The Plate Estuary is the main outlet, since it forms the southern end of the riverine trough. Andean passes are used by cattle drovers. The Uruguay and Paraguay provide routes into Brazil and Paraguay. A railway gives an entry into eastern Bolivia.

Route Towns and Trade. Most urban centres have arisen at route crossings or route junctions where railways meet rivers or other lines. As the granary of South America Argentina has a considerable trade in foodstuffs with neighbouring lands, but this traffic is eclipsed by the export of meat and cereals to the manufacturing districts of western Europe.

Outlook. Even in the east of the country, which produces nearly all the cereals and contains most of the farm animals, less than one-fifth of the area is under cultivation. Over 90 per cent. of the exports are farm products, hence the future lies in the extension of scientific agriculture based upon an increased stream of immigrants from Latin Europe. Cattle will increasingly displace sheep.

From the Editor's Desk—(continued)

Modern Babylon. It was either at Broadway, about 32nd Street, or at Fourth Avenue at about the same sector, that I noticed a new building being demolished, and on making inquiries of a journalistic friend of mine in the city, I discovered that this great edifice, which reached up to 18 or 20 storeys, had been completed a month or two before, and the completion coincided with a readjustment of rateable values in New York. As a result of this change in the rating the syndicate that had erected the building for renting as offices found themselves faced with an immensely expensive investment, on which no profit could accrue in any given time. The ground space is at an immense premium in New York, owing to the constricted area of the city, and now their only hope of profit was to put up a building sufficiently tall to accommodate many more hundreds of offices than that which they had just completed. Without hesitation they broke down the 18 or 20 storeys which they had erected, put in new foundations, and reared on the same site a building of some 30 storeys, from the letting of which they had the certainty of making a reasonable profit upon the total expenditure of money despite the increase in the rates for the area of ground covered.

The Moral of the Anecdote

NOW, it struck me at the time that here was an example of real business sense—not to continue with a thing that was unprofitable or unsatisfactory or second-class even although a large sum had been spent on it. My readers who have yet to learn what Mr. O'Neill wrote to me, may be wondering a little what all this has to do with his letter, but he himself, if he should by chance see this note, will appreciate its moral at once. Here is his letter:

"My dear Sir,

"As one who has followed you with interest through the 'Universal Encyclopedia' and later through 'Peoples of All Nations,' I venture to send a word of congratulation on both of these publications, and to express my regret that the last-named, which has been so interesting and so educational, has now finished. I also regret that you did not earlier give your readers an inkling of the nature of the book which was to succeed it, as in my own case I am prevented from taking COUNTRIES OF THE WORLD because I have been subscribing for a somewhat similar publication. . . . Had I known earlier I would have waited on. But, of course, it is now out of the question for me to take both, as I am merely an average reader, who is not overburdened with worldly wealth! I cannot, for obvious reasons, indulge too much in even so inexpensive a pleasure as your good books, and it is a great regret that I cannot follow you in your new voyage of the world, but I certainly can wish you great success therein. I have come to regard you and your books as quite old friends, and I shall hope to keep company with you again. Cordially yours,

T. P. O'NEILL.

"College Street, Carlow."

THE foregoing is a very pleasant letter, and the point of view of my correspondent is entirely a reasonable one; for, as I have hinted above, powerful and enterprising as the house from which this work is issued may be, it cannot hope to monopolise any branch of publishing. Its continuous success has been built up in competition, and by competition the public are always the gainers. At the same time I think there is a moral in the story with which I have introduced Mr. O'Neill's letter, although I do not purpose pointing it!

New Treatment of Old Matters

IT is true, no doubt, that there is nothing new under the sun. I suppose that most Americans have a profound belief in the peculiarly American methods of central heating. Those of them, however, who have had the good fortune to come across that rich mine of instruction and entertainment, "Wonders of the Past," will know that two thousand years ago the Roman house-builders were putting in elaborate central heating systems which compare not badly with the best ideas of to-day. If one cared to explore the ancient records for evidences of long-ago anticipations of pet ideas of to-day, I am open to believe that we should find even the gramophone and wireless telephony had been, in some form at least, the subject of experiment and use in the very remote past. In the application of ideas and in their fresh treatment, however, many new things may be achieved.

Forty Years On

THE idea of COUNTRIES OF THE WORLD is by no means a new one; but I do venture to claim that the way in which that idea is carried out, the method of presenting it to the reader, is fresh and unhackneyed. "What a wonderful advance has been made since the days when I started taking in and studying serial publications sixty years ago," writes my correspondent, Mr. F. Jones, of East Hoathly, Sussex. "It is well over forty years since I used to wait impatiently for the arrival of Bates' 'Illustrated Travels.' I loved the work of the old wood engravers with which that serial was illustrated, and used to regret the decay of that art, but the colour illustrations which you have given us in 'Peoples of All Nations,' and which I understand we are to have in COUNTRIES OF THE WORLD, are really phenomenally beautiful, and in my opinion reach the very acme of book illustration. I can best show my appreciation of your excellent publications by complying with your request and sending an order for COUNTRIES OF THE WORLD."

COUNTRIES OF THE WORLD will be completed in about 40 Fortnightly Parts

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The Age-old "Violet-Crowned" Capital of Greece

BEAUTIFULLY DEPICTED IN GLOWING COLOURS

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ARMENIA

Historic Highlands of Western Asia

by W. Llewelyn Williams

Author of "Armenia Past and Present"

ARMENIA (Old Persian "Armina," Armenian "Hayasdan") was the name of a kingdom which at its zenith extended from 37° to 49° E. long., and from 37½° to 41½° N. lat. In 95-55 B.C., under Tigranes the Great, "King of Kings," it was the mightiest monarchy in Asia. Armenia has fallen from this high estate. Before the Great War this large area was divided between three empires—Turkey, Russia and Persia, whose territories met at a point on Little Ararat. The term "Armenia" had then a more extended connotation. Turkish Armenia consisted of the six vilayets (provinces) of Erzerum, Bitlis, Van, Sivas, Diarbekir and Kharpüt. In these districts were found the bulk of the Armenians under Turkish rule.

Cockpit of Contending Empires

East of Erzerum, Bitlis and Van stretched other portions of the old Armenian land, notably territory taken by Russia after the Russo-Turkish War in 1878 and formed into the Russian governments of Kars and Erivan.

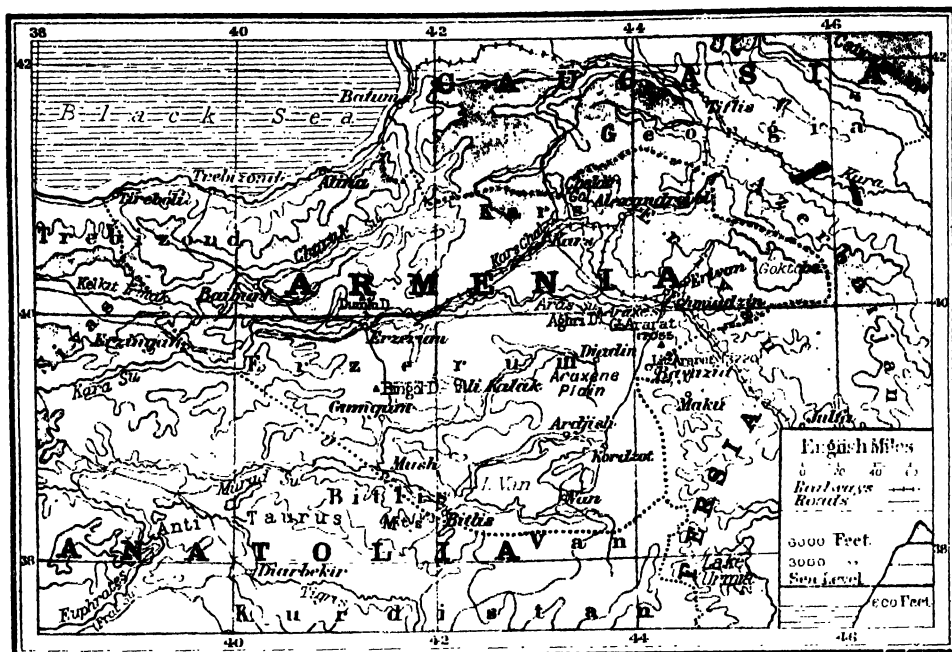
These pages deal with an area including Erzerum, Bitlis, Van and Trebizond with Kars and Erivan—a total area of 81,383 square miles—about equal in size to England, Scotland and Wales. It forms the extreme eastern portion of Asia Minor, and is bounded on the north by the Black Sea, on the north-east by Caucasus, on the east by Azerbaijan, on the south-east by Persia and on the south by the plains of Mesopotamia. Historically this area has been the homeland of the Armenian race for 2,500 years. It has been termed "the cockpit of Asia," where contending empires, from the remotest times have fought for the

possession of the great highway 'twixt East and West—the bridge between Europe and Asia.

The march of events in the Great War saw Russia in effective possession of the whole of this area in 1916, but the Russian Revolution in 1917 wrought bewildering changes. The Russian forces were withdrawn and chaos ensued. Nationalisation for a short period triumphed. Republics were formed in Transcaucasia, notably by Georgians with Tiflis as capital, and by Armenians with Erivan as capital, the latter assuming control of Kars. After the armistice, Turkish forces reoccupied the abandoned vilayets of Erzerum, Bitlis and Van, and later cooperated with Soviet Russia. By the Treaty of Kars (1921) the Turks regained possession of their old territory in Kars, and the Armenian and Georgian Republics became members of the Union of Soviet Republics in more or less friendly relations with Moscow. In the territory of the Armenian Republic are concentrated such remnants of the Armenian race as escaped massacre, deportation and all the horrors of famine following the Great War.

Mountain Home of Lawless Nomads

Geographically this area is a continuation westwards of the great Iranian plateau which stretches as far east as the Indus river and even to Afghanistan. Above the general level of the plateau—some 6,000 feet—rise bare mountain ranges which culminate in the famous Mount Ararat (17,055 feet). Due north a considerable range of mountains runs from east to west, parallel with the Black Sea, at no great distance from the coast. In the south, running almost



ARMENIA'S NETWORK OF MOUNTAIN CHAINS ABOUT GREAT ARARAT

due east, is the Anti-Taurus. Hence the whole area is exceedingly mountainous, making it difficult of access and tending to keep it what it has been from the very dawn of history, a pastoral country inhabited by a people in the main nomad and lawless.

Geologically Armenia consists of archaic rocks, upon which to the north are superimposed palaeozoic, and towards the south later sedimentary rocks. Volcanic action at some remote period has pierced these and formed the deep gorges which constitute so marked a feature of the area. The chief rivers are the Euphrates (1,600 miles long), the Tigris (1,150 miles), the Aras Su (the ancient Araxes), the Choruk Su and the Kelkit Irmak. These all have their headwaters in the lofty plains of Armenia. "Both branches of the Euphrates," says Lynch, "wind their way by immense stages at the foot of these mountains, in the lap of these plains; the eastern branch, called Murad Su, rising in the neighbourhood of Diadin, near the base of the Ararat system, and traversing Armenia almost

from one extremity to the other. The more westerly channel is composed in its infancy of two streams, one descending from the Dumludagh, and flowing sluggishly through the plain of Erzerum; the other springing in the neighbourhood of the sources of the Choruk in the elevated district of Arajik. The Kelkit and the Choruk are both in their upper courses typical Armenian rivers." The most important lake is Lake Van, 5,100 feet above sea-level, with an area of 1,300 miles, or six times as great as Lake Geneva. This lake is salt. Lake Goktcha or Sewan (5,870 feet) discharges into the Aras Su, and the Chaldir Gol into the Kars Chai.

The aspect of these lofty uplands is dreary and monotonous. The valleys are wide expanses of arable land. The hills for the most part are grass covered and treeless, the forests that at one time abounded having been ruthlessly destroyed and wasted. The gorges of the Euphrates and the Tigris are unsurpassed in grandeur and wildness. The climate is very varied. The

winters are long and severe; the summers dry and hot. Temperature ranges from 22° to 84° F. The rainfall is not heavy—about 10 inches annually; in summer the plains are scorched and need irrigation. Snow sometimes falls in June, and in July the wells near Erzerum are occasionally thinly frozen over. The sources of the many streams are fed by the heavy snow accumulations on the lofty mountain ranges. Variations of temperature, daily and annual, are very great. Still, Lynch declares that, despite all drawbacks, "Armenia might easily become an ideal nursery of the race. The strong highland air, the rigorous but bracing winters, the summer when the nights are always cool, a southern sun, great rivers, immense tracts of agricultural soil and an abundance of minerals" are features he dwells on in his description of a land he loved deeply and

knew intimately. Most of Armenia's few towns lie high, from 4,000 to 6,000 feet above sea-level. Villages are generally built upon the gentle slopes of hills, into which the inhabitants, to-day as 800 years ago, burrow as a protection against the severity of the weather. Many of the early towns were on or near the river Aras. Among their ruins are remains which throw much light on ecclesiastical architecture in the East.

The soil shows volcanic products, especially in the vicinity of Maku, in a narrow valley which extends from the Araxene plain, near Ararat, towards Lake Van, and also in the country round Goktcha. Vegetation varies according to locality. Cereals and hardy fruits grow on the higher ground while rice and cotton can be grown in the hot, well watered valleys of the Aras. The vine, fig, orange and



HAIRPIN BENDS ON THE MILITARY ROAD FROM ERIVAN TO KARS

Erivan stands over 3,000 feet above sea-level and from it the military road winds down in long zigzags to the vale seen in the distance with harsh-featured hills dominating it on either hand. At the end of the road, 80 miles away, is the fortified town of Kars, where carpets, felt and coarse woollens are made. The trade of Erivan is mainly in pottery, cotton and leather

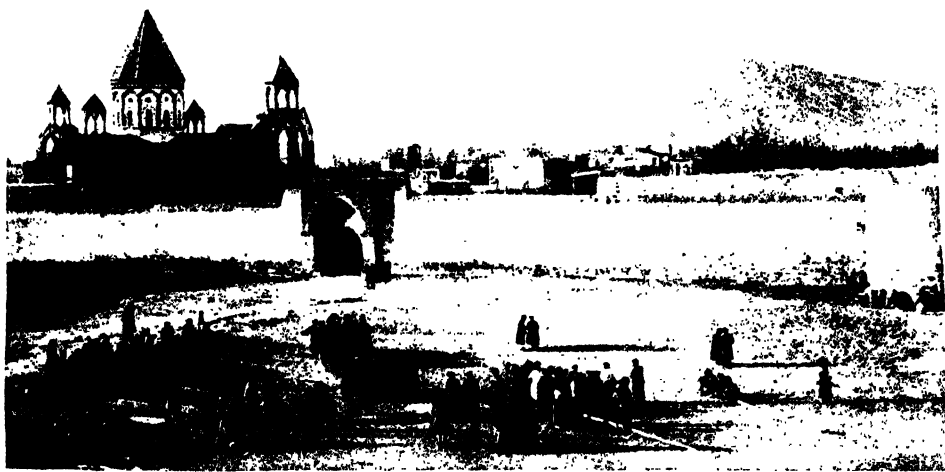


WHITE SUMMIT OF GREAT ARARAT, NOAH'S TRADITIONAL LANDING-PLACE AND ARMENIA'S HIGHEST PEAK H. P. Beld

Ararat is the name inaccurately given to two lofty peaks of a district of the same name in Armenia. Though tradition makes "Mount Ararat" the resting-place of the ark, the Bible gives no authority for this, the text referring to "the mountains of Ararat," meaning a region in the province of Erivan in eastern Armenia. Of the twin peaks in the photograph that on the left is Little Ararat, and that on the right Great Ararat, their heights being 12,840 and 17,055 feet respectively. The Armenians call them the Massis, the Persians knowing them as Koh-i-Nuh—Noah's Mount.

pomegranate are among the fruits; the cedar, evergreen oak, Aleppo pine and cork among the trees. Agriculture is in a backward state; forestry is entirely neglected. The forests, which once existed in profusion, have almost disappeared. Along the Black Sea coast they are to be found, but from the mountain lands they have vanished.

zinc and copper, coal and iron in many places. Rich oil-bearing areas are known to exist which may prove to be as productive as Baku or Mosul. At Kordzot (Van) a rich oilfield was discovered and partly developed in 1875-77, but the outbreak of the Russo-Turkish War ruined the works. Mineral springs, hot and cold, abound. These



FORTIFIED MONASTERY OF ECHMIADZIN UNDER THE ARARAT PEAKS

Behind this sacred building rise the two peaks of the Koh i-Nuh, the Persian name for the summits called Great and Little Ararat. The monastery of Echmiadzin is the seat of the Armenian Primate, who is known as the "Catholicos." The walls are loopholed and strengthened by towers for defence against marauders. In the library are some priceless tenth century manuscripts of the Gospel

The fauna is not in any way remarkable. Wild animals, e.g. the wolf, bear, hyena, lynx and the wild boar are found. In the rivers trout abound, and in Lake Van a fish resembling the herring is caught. The uplands afford pasture land and from the earliest times have supported the flocks of the Kurds. Horses and mules bred on those high plateaux were celebrated in ancient times. No attempts have been made to improve any stock. Nor have any organized efforts been made to grow cotton. But vast quantities of raw materials for both textile industries could be secured if only energy and enterprise were shown.

Armenia is exceedingly rich in mineral wealth. Gold and silver are found, also

vast natural resources have been very imperfectly explored and hardly any development has taken place. Under Turkish rule every industry was blighted and all enterprise killed.

Other industries are small compared with the staple industry—agriculture. Carpets, shawls and silks are woven, and some cotton goods are also produced. Exports are mainly confined to those products together with cereals, fruit and tobacco. According to Lynch, industry, as a whole, was chiefly maintained by the Armenian element. Hence the policy deliberately adopted in 1914 by the Turkish Government of extermination of the Christians in this area must have altogether destroyed any economic life the area possessed. Great



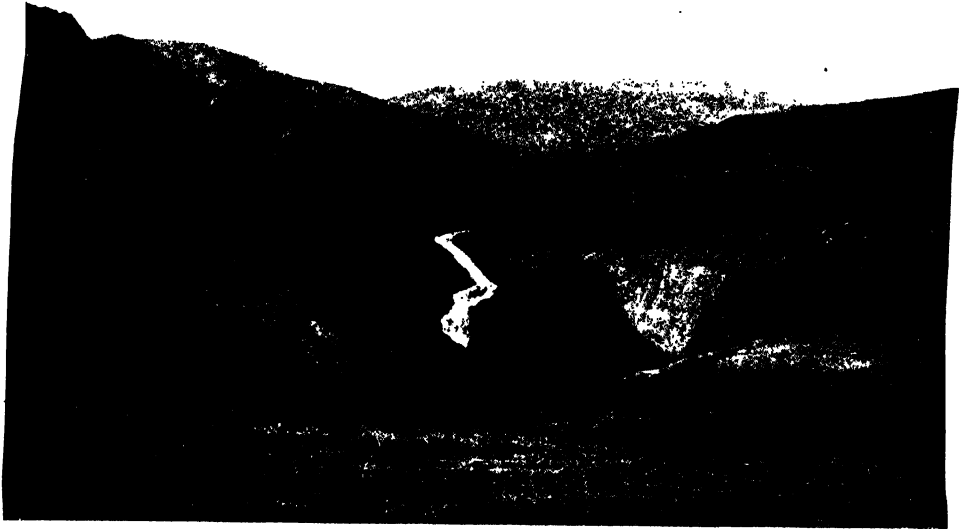
TREBIZOND'S HOARY WALLS: THE EASTERN RAVINE AND RAMPARTS

Trebizond is still surrounded by its ancient Byzantine walls, which run parallel with the sea and then climb the hill behind. Towards the summit a cross wall gives an inner protection to the keep. This is yet further protected by two deep ravines running down to the sea; one of these is seen above, where it is spanned by a viaduct. The grimness of the old walls is now veiled in festoons of creeper

districts in the vilayets of Erzerum, Bitlis and Van have been denuded entirely of Armenian and other Christian elements. The Turkish population suffered deep privations and losses during the Great War. Consequently, no estimates can be formed of either population or economic conditions and possibilities. Over the old Russian frontier Armenian refugees flocked in uncounted thousands, glad to escape with their lives. This also has to be taken into account, for it affects the problem of reconstruction. It was from this element that were drawn not merely the manual workers but the professional and educated classes—bankers, lawyers, doctors, civil servants. Upon the Armenian and the Greek fell the whole burden of promoting the intellectual life of the state. They were the educationists, the journalists, the literary and scientific people. It is evident,

therefore, that the policy has dealt the state an economic, intellectual and social blow from which it cannot recover for generations.

Roads and means of communication are wretchedly bad. It is true that the world's most famous and most ancient highway runs through Armenia along the line Erzerum - Erzingan - Sivas - Angora - Brusa. In ancient times Asia Minor and Armenia were covered with a network of well made, well kept roads. They have mostly vanished. Until recently no metalled road existed between Erzerum and Trebizond—the two chief centres in Armenia. Intercourse and commerce are hindered, are difficult, costly and slow. The only railroad is in what was Russian territory—the Tiflis-Alexandropol-Erivan-Julfa line; a branch runs to Kars and Erzerum also. Otherwise, the means of transport are



LOOKING DOWN ON A GORGE OF THE RIVER ARAS, NEAR ERZERUM

H. F. B. Lynch

Rising south of Erzerum, the Aras, anciently known as the Araxes, flows eastward through Armenia and the southern parts of Caucasia, where it forms the boundary with Persia. Eventually, after a winding course of about 600 miles, it enters the Caspian Sea south of Baku. Formerly it united with the river Kur, but in 1891 cut out a fresh channel to Kizil Agach Bay.



WHERE THE YOUNG ARAS WINDS ITS WAY THROUGH THE HIGHLANDS

South of the great Caucasus range a network of mountain systems spreads itself across Armenia. The river Aras has its twisted course among them, and the scenery is often as bleakly grand as seen here in a remote valley south of Erivan. The huge sweep of the mountains and their steep slopes indicate the enormous changes which this part of the earth's surface underwent in early geologic times.



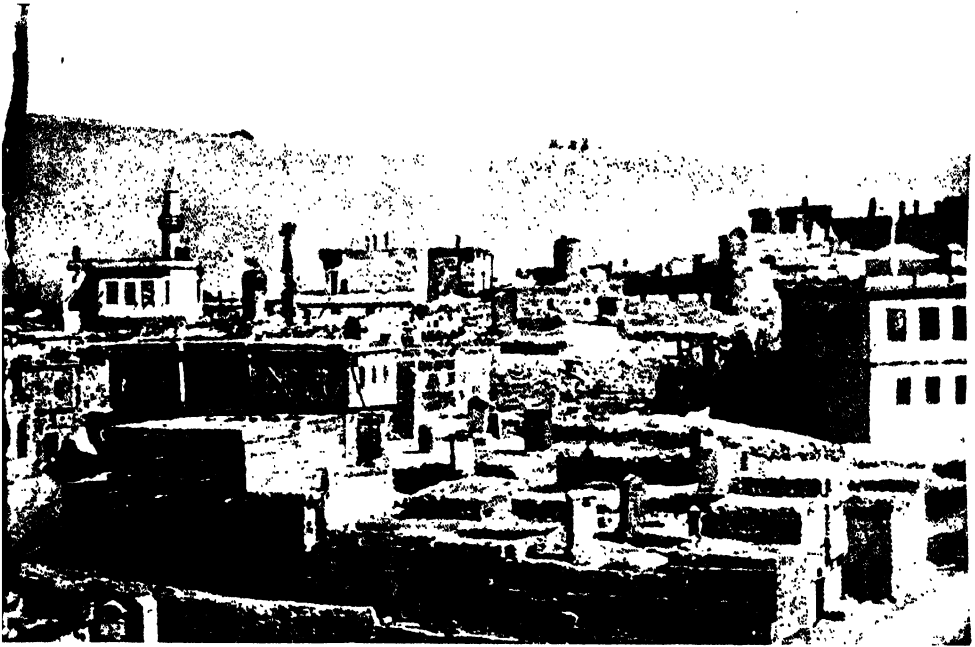
ABOVE THE ROOFS AND MINARETS OF HILL-GIRT ERZERUM--

Within the curve of a sickle-shaped line of summits stands Erzerum, city of the plain. On the south-west, west and north stretches a wide treeless expanse, 6,000 feet above sea-level, through which flow a number of streams that fall into the Kara Su, an important headwater of the great Euphrates. Five miles to the north east of the town is a great marsh where thousands of wild-fowl have their home.



BITLIS AND ITS CASTLE FOUR THOUSAND FEET ABOVE THE SEA

Sixty miles south-west of Lake Van is Bitlis, capital of an old Turkish vilayet of that name. The place is built about a narrow valley, almost a ravine, through which flows the Bitlis Chai, an affluent of the Tigris. The town presents a fine spectacle with its well-built houses interspersed with trees, its mosques and busy bazaars. The principal industries include the manufacture of cotton fabrics and firearms.



—HUB OF ARMENIA'S ANCIENT AND FAR-FLUNG TRADE ROUTES

Caravan routes from all Armenia and Caucasia converge upon Erzerum. Trebizond, on the Black Sea, is in direct communication and other roads go through Kars both to Alexandropol, connecting with Tiflis, and to Kutais in Georgia. Nearly all the road transport for the trade between Caucasia and Persia has passed through Erzerum for centuries. The town has tanning and jerked beef industries



BROKEN BULWARKS OF ANI, CAPITAL OF A VANISHED EMPIRE

H. F. B. Lynch

In the tenth century the city of Ani was the capital of the Bagatrid kings, who held sway over Armenia. It was destroyed by the Seljuk Turks in 1063, and its extensive ruins, including those of a church, stand in an almost impregnable position some 25 miles south-east from Kars. This double line of walls defended by round towers, and with a moat in front, guarded the east and most accessible side



MIXED ARCHITECTURE OF AN ARMENIAN CHURCH

The conical roof which crowns this church on Aktunan island off the south-east coast of Lake Van conceals a hemispherical dome in the interior, a characteristic of Armenian ecclesiastical architecture. The porch is Byzantine-Romanesque

those of bygone centuries and civilizations. Trebizond is the only port of any importance. Batum has diminished in prosperity and importance. On the whole, it must be concluded that the commercial prosperity of Armenia is bound up intimately with the control of the machinery of government by men capable of exercising their powers wisely and vigorously.

Social conditions leave much to be desired. Conditions for the cultivators in this area were never very good. Small holdings are the rule. The villages on the gentle slopes of the hills are partly subterranean and there is little or no attempt at sanitation. Hence disease reigns everywhere. The few towns of

any size and importance are little better from this point of view. Improvements are due usually to some foreign element. Kars and Erivan, controlled by strong and cultured Armenian inhabitants, show signs of their influence and intelligence.

Trebizond, the ancient Trapezus, is one of the natural outlets of North Persia and Kurdistan. Before the Great War the population was 40,000. Erzerum, capital of the vilayet of that name, occupies the centre of the Armenian plain. It is commanded by a citadel founded in the fifth century by the Emperor Theodosius the Younger. The fortress was regarded as impregnable, but it fell to the Turks in 1517 and to the Russians in 1878 and in 1916.

Kars, the capital of the Russian government of the same name, ceded by Turkey to Russia in 1878, and ceded back again to Turkey by the

Soviet Russian government, was the capital of an independent Armenian kingdom in the ninth and tenth centuries. In modern times it was rendered famous by its magnificent defence by the Turks, under General Williams, against the Russians in 1855. Its population was about 21,000.

Erivan is the capital of the Armenian Republic established in 1921. Russia captured the place in 1827. It had of recent years become increasingly the centre of Armenian nationalism. The population of the city is normally about 30,000, but this number has been enormously swollen by refugees, said to be about 400,000, who swarmed into the city and surrounding districts.

The Republic, which in area is about 10,500 square miles, has now a population of nearly two millions.

Van, with an estimated population of about 30,000, is one of the oldest and most famous cities in the Near East. It is dominated by its citadel which stands on an isolated ridge.

Echmiadzin, a few miles to the north of Ararat, is worthy of mention as the true centre of Armenian ecclesiastical and political life. When the Armenians lost finally their separate political existence, the Catholicos of their Independent Church became the mouth-piece of the people. Their recognized head since the fifth century, the Catholicos of the Church, has resided here in a monastery which, with the cathedral, is among the oldest Christian buildings in the world.

Armenian Population Wiped Out

The question of the population throughout this area presents unusual difficulties. No reliable census has ever been taken, so that estimates are all we possess. That given by the Armenian Patriarch was accepted in the early part of 1914 by Russia and Turkey as a basis of negotiations then proceeding. It gave Erzerum a population of 630,000; Van, 350,000; Bitlis, 382,000; and of the total it was claimed that 45.2 per cent. were Christians; 45.1 per cent. were Moslems; and 9.7 per cent. sundry races. Kurds chiefly. This means that in the three vilayets there would be some 580,000 Armenians out of a total of 1,362,000. Turks were estimated at

327,000. To-day an Armenian population virtually does not exist.

The Armenians have their own faults, partly due to their character, but even more directly traceable to their economic and political environment. These have largely determined even their physical appearance. The highlanders of Cilicia differ widely from the plainsmen of the eastern vilayets. The former are tall, handsome, keen featured, while their compatriots are of middle height, thick set, coarse featured, with thick, straight, black hair and the hooked nose which tells of Oriental blood. Again, the isolation of the valleys and the long and severe winters have tended to keep them apart, and to emphasise their peculiar characteristics.

The Only Hope for Asia Minor

Alien races again and again swept over the Armenian plains. But the Armenians dwelt apart and kept almost unimpaired nationality and faith. None can deny their sobriety, frugality, industry and intelligence. Lord Cromer termed them "the intellectual cream of the East." They are intensely conservative in manners, faith and customs, and yet are instinctively progressive. On the other hand, they are jealous, suspicious, quarrelsome, full of intrigue, greedy characteristics which explain their unpopularity. Despite all, they were the main hope of any regeneration of their homeland indeed. Asia Minor can only know a revival of its old glory and prosperity through the resurrection of this virile and tenacious race.

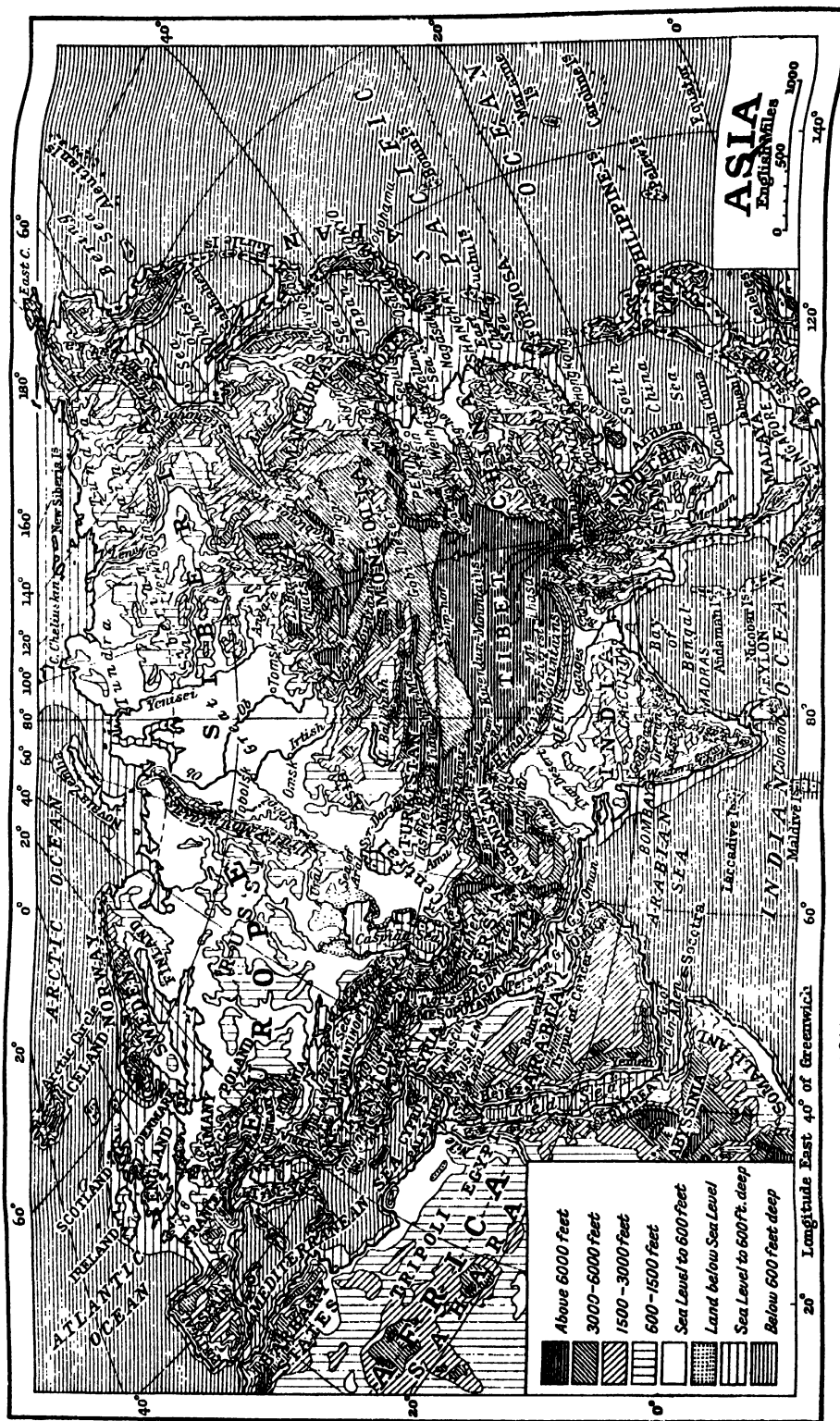
ARMENIA: GEOGRAPHICAL SUMMARY

Natural Divisions. Plateau criss-crossed by a tangle of ridges of alpine character and magnitude; volcanic activities manifest near Ararat. Lake littorals and valley floors form narrow stretches of lowland.

Climate and Vegetation. Elevation keeps the temperature low; the plateau is snow-bound for at least three months, and the passes for a longer period. Rainfall is slight. The original forests have been destroyed; the plateau provides alpine pastures.

Rivers. Chief rivers are the upper streams of the Euphrates, the Aras and Murad, deeply intrenched in the plateau.

Outlook. An intricately mixed pattern of peoples with nomadic tendencies, inhibited by an inclement climate and isolated by the elevation of the plateau, placed on the isthmus of the peninsula bridge between Europe and Asia. Primitive farmers with starveling flocks and inadequate harvests, the population has no immediate future.



ASIA: RELIEF MAP OF THE WORLD'S GREATEST CONTINENT

ASIA

The World's Greatest Continent

by Demetrius C. Boulger

Editor of the "Asiatic Quarterly"

A SIA, the largest of the five continents of the world, has always exercised over the human mind a strange power of fascination which even in these prosaic days has not departed. We know all of it, but it has not grown stale. The ancients knew but a small part of it, peopling the vast unknown spaces with strange animals and stranger human beings roaming over hyperborean wilds. Behind the veil in those days of Greek and Latin culture lay the marvellous civilizations of India and of China in their full splendour and luxury, with which the travellers of the Middle Ages were the first to make us acquainted, but only at the period of their decline.

From west to east, the limits being the Suez Canal and East Cape on Bering Strait, the continent stretches for 6,700 miles and from north to south, Cape Cheliuskin (Severo) and a point near Singapore, 5,300 miles.

Early Process of Upheaval

Extending from parallel 25° of east longitude to parallel 170° west, and from 72° 23' of north latitude to 1° 23' south, it includes regions which lie within the Arctic Circle on the one hand and in the Tropics on the other. In size it is computed to cover an area of 16,050,000 square miles, but, as the islands and archipelagoes off its shores are not included in that figure, the true total is probably a million square miles more. In shape the continent presents a solid mass, an impressive parallelogram with prolongations in the peninsulas of Arabia, India, Indo-China and Kamchatka.

The structure of the continent reveals two distinct geological formations separated from each other by incalculable

periods of time. That part of Asia which lies north of the Altai range reposes on strata of crystalline rock and other primitive formations, but with the Himalayas we reach much more recent formations belonging to the tertiary period. The most remarkable feature in the creation of the continent has been the process of upheaval which must at an early period have been very marked if not rapid, and which even now has not been arrested. The only exceptions to this movement have occurred at a few points along the southern coasts and more particularly in various islands of the Indian Ocean which, as in the case of the Chagos group, reveal a tendency to disappear.

On the Roof of the World

While the tundras of North Siberia are low-lying wastes, exposed to the full force of Arctic storms and unprotected by any intervening barrier, the Siberian highlands nestling in the Altai range mark the northern limit of cultivation. They form the first protection provided by nature against the rigour of the north, and under their shelter the fertile grasslands of Siberia make their appearance. Their fertility becomes more exuberant as the valley of the Amur is reached, stretching far to the east till it falls into the Pacific after marking in its course the old limit of Chinese domination.

South of the Tian Shan, which is parallel with the Altai, we reach in the very centre of Asia that elevated tableland, ranging from 10,000 to 17,000 feet in altitude, which extends from the Pamir or "roof of the world" on the west to the Gobi Desert on the east. The Himalayas form its southern boundary,

while the Kwenlun range intersects the intervening space in an irregular form and direction. To the east the tableland falls to 4,000 feet in the Gobi Desert. To the west the subsidiary Iranian plateau descends from the Pamir in a south-westerly direction until it attains the Persian Gulf. The true geographical Central Asia represents a natural fortress dominating the rest of the continent, but fortunately of too extensive a character for the most thickly peopled of empires to provide an adequate garrison.

Civilizations Under the Sands

This immense tableland is a region of mystery. Was it at one time an inland sea? The lakes are salt, deposits of salt abound; the theory is at least plausible. But the evidence is stronger that long after it ceased to be water it had become the home of civilized nations and the seat of powerful empires. Who and what were they? Were they the Tangutans about whom the early Chinese annals say so much that is only vague and perplexing? The solution of this puzzle may not be far distant. At an uncertain date this region was visited by the violent sand storms which blotted out and covered up these scenes of human activity and, if tradition is to be believed, of vice. But while the sand destroyed it also preserved. The secrets that lie beneath it have already begun to be dug up, and in the course of time they may serve to enlighten us about a phase of human existence of which we are at present in almost complete ignorance.

Dividing Line of the Himalayas

The Himalayas, which mark the southern limit of this arid region where the dearth of water does not allow of the cultivation of grain, are the true dividing line between northern and southern Asia. They are the political and military defence of India, and they are also nature's sure expedient for separating two extremes of terrestrial cultivation and ethnographical

development. To the north everything seems uninviting; to the south lie the fairest regions of the earth.

To the north humanity retains all the vestiges of barbarism; to the south we find human culture in its most advanced and attractive forms. There are deeper causes for the difference than would have occurred to the older philosophers. To the north all is dry and parched; to the south are some of the wettest regions of the globe. There vegetation is abundant, cultivation is easy, man relies for his sustenance on cereals, vegetables and fruit. The same difference is shown in clothes. For skins and furs beyond the Himalayas, men use south of them cotton, linen and silk. They inhabit houses and palaces while the denizens of the steppes and sand plains occupy huts or tents. Civilization displaces barbarism.

Mighty Mountains and Waterways

Mention has been made of the several ranges which in more or less parallel lines demarcate the successive gradients of central Asia. They culminate in the impressive range of the Himalayas, the Abode of Snow, which contains the loftiest peaks on the globe. Not only that, but in its western prolongation in the Karakoram and the Mustagh are also to be found a group of pinnacles rising almost as high towards the ether. Mountains in their fullest sublimity are indeed the dominating feature of Asia. The Hindu Kush, the Caucasus, the Urals, Ararat in Armenia, the Taurus of Asia Minor—all appeal for one reason or another to the imagination or the interest of man.

Not less impressive and useful are the rivers; those of Siberia with sluggish currents and mouths closed by ice for nine months in the year are the least important, but in eastern Asia the Amur and its numerous tributaries play a rôle of ever increasing importance. China possesses in the Yang-tse-Kiang the longest and most important river in the continent. There are ports on its banks at a distance of 1,500 miles from

the sea. Its chief tributary, the Han, maintains communications with the north-west. The Canton or West river is scarcely less important as a means of access to Yunnan. The Hwang-ho may some day be restored to its old importance by modern engineering science.

The rivers of India are hardly less important than those of China. The Brahmaputra, doubly interesting since its upper course has been identified with the Tsan-po of Tibet; the Ganges with its numerous tributaries; the Indus rising in Tibet and fed by all the streams of the Punjab are among the mighty rivers of the world. The Irawadi, the Salween and the Mekong in Indo-China are hardly in any sense their inferiors. Then there are the Tigris and Euphrates, the Amu and Syr-Darias to swell the list. Of rivers of the second order the number is unlimited, especially

India. Lakes are the only natural feature in which Asia is deficient. Those of Turkistan are small and unimportant. In Siberia Baikal is the only one of any size and it is also remarkable in that its water is fresh in contrast with all the others which are salt.

Pilgrims March Where Soldiers Fail

The Himalayas have been a military defence for India and her neighbours against aggression from the north; her plains have never been reached by an invader coming from that quarter. The Mongols when they came had to turn the position from the north-west through Afghanistan. The Chinese inroad into Nepal in 1792 had no precedent or sequel. Not until 1904 did British forces violate the integrity of Tibet, and their experiences there do not encourage a repetition of them. But if the Himalayas baffled the soldier and the political adventurer they failed to exclude the religious devotee and fanatic. They did not hold back Siddhartha when, driven from India, he went to establish the fame and the power of the living Buddha over the regions of central Asia from the Tsan-po to the Amur. They did not restrain Chinese pilgrims, like Hiuen

Tsiang, who wished to see the shrines and sacred river of the holy man who had brought them a new light.

In this connexion it must not be forgotten that the hold Asia has always exercised upon the minds of men of the old world at all epochs has been largely due to religious influences. Asia was the original home of all the religions flourishing to-day throughout the civilized world. Judaism, Christianity and Mahomedanism rose to pre-eminence in the west; Buddhism, Brahmanism, Shintoism in the east. None of the other continents produced a religion that had any ethical appeal.

Trackless Deserts China's Defence

China possessed in the deserts that extended for a thousand miles beyond her western frontiers a defence hardly less effective than the Himalayas were for India. Her conquerors came from the north-west or the north. The Mongols descended upon her from the Upper Amur and its tributaries, the Manchus from the fertile province that gave them their name. But across the deserts no foemen presumed to march, and that is why the Great Wall ceased at their meeting point. China, like India, was thus during countless centuries able to live her own life unperturbed by the troubles and revolutions of the outer world, and even when conquered she succeeded in absorbing and assimilating her conquerors so that they became quite as much Chinese as her own people.

Unforeseen Perils From the Sea

While India and China were thus by nature protected on land, and so completely separated from each other that their destinies never merged together, Providence had left them exposed to perils from the sea that their wisest statesmen had never anticipated. In the Middle Ages the European nations, cramped in space, dissatisfied with their meagre resources, pining to possess themselves of the fabulous riches of the Orient, broke through their narrow

bounds and traversed the high seas. The Portuguese led the way, having discovered the Cape route at the close of the fifteenth century. They established themselves on the coasts of Persia, India and China and secured a monopoly of trade with Japan. But at the beginning of the seventeenth century new and more formidable claimants appeared with the Dutch, the English and the French. At first all came to trade for the spices, silks and treasures of "the gorgeous East," but in the next two centuries the Dutch and the English became conquerors, with the intention of remaining so, the one in the Sunda Isles and the other in Hindustan.

In China the same process commenced and continued to a certain point, but it has been less rapid and complete and may now be regarded as arrested. With difficulty the Portuguese acquired Macao in the sixteenth century; with still greater difficulty the English acquired factories at Canton and Amoy, but it was not till almost the middle of the nineteenth century that Europeans obtained the privilege of owning concessions or settlements exclusively reserved for themselves. Following earlier examples it is to trade that reflecting minds will turn more and more for the true and durable bond of union between Asia and the other divisions of the world.

ASIA: GEOGRAPHICAL SUMMARY

Natural Divisions. Relic of ancient continent of Angaraland in the north-east, now a low lying dissected plateau; the tableland of Mongolia in the middle and the Chinese plateau in the south. The whole Pacific coast of Asia is the fractured edge of this ancient land mass, and is remarkable for its island festoons, of which the Japanese archipelago is the largest. Relic of ancient continent of Gondwanaland in the south, now the plateaux of Arabia and the Deccan. These ancient lands were separated by the Middle Sea, or Tethys, which disappeared when the great fold mountains of Eurasia were uplifted. These mountains enter west Asia as the Taurus and Caucasus, enclose the basins of Iran and Seistan, form a knot in the Pamir, the "roof of the world," continue east as the Himalaya Mountains and the Kwenlun Mountains, between which is the plateau of Tibet and as the Tian Shan Mountains north of the Tarim basin. The relics of the Tethys depression are Mesopotamia, the Indo-Gangetic plain and the Siberian plain in west Siberia; the relics of the Tethys itself are the Caspian Sea and the Sea of Aral.

Rivers. *Arctic:* Lena, Yenesei-Angara, Ob-Irtish, flow from the north-east plateau. *Pacific:* Amur, Hoang-ho, Yangtse, Canton, Mekong, flow east. *Indian:* Irawadi, Ganges-Brahmaputra, Indus, Euphrates and Tigris flow to the Indian Ocean from the southern system of fold mountains. Oxus, Jaxartes, Ili and Tarim belong to basins of internal drainage. *Climatic Regions.* Arctic insular region, heavy precipitation of snow. Arctic continental region, great extremes. Verkhoyansk, the pole of cold (v. Arctic Lands). Central Asia, extremes of temperature, slight rainfall in winter. Mountain region,

i.e. the fold mountains, slight precipitation, hence glaciers only on the greatest heights; cold, except in the depressions during the summer. Desert regions. Arabia and the Thar desert in India, cf. the Sahara. Monsoon region, India, three seasons;—hot, dry early summer; hot, wet monsoon season with heavy rains; warm, dry, cool season. Pacific region, i.e. China and Japan, summer rains, hot summers, cold winters in the north, warm winters in the south.

Vegetation Regions. Tundra in the north; forest next; high mountain flora on the mountains, deserts in the intramontane depressions, e.g. Gobi, and near the tropic of Cancer, e.g. Arabia; steppe fringing the deserts, e.g. west Siberia; jungle forest in the heavy summer rain areas.

Products. One-eighth of the world's wheat, from India and Siberia chiefly, little oats, barley, rye, or maize. More cattle, chiefly in India, than in any other continent except Europe; large numbers of sheep and goats; animal products of relatively little importance, some wool, very little meat, many hides and skins. A quarter of the world's cotton, India and China; one-third of the tobacco; one-half of the cane sugar; almost all the world's rice and tea. About five per cent. of the world's coal, mined in India, Japan, and China. Petroleum, manganese, and mica in India, tin in Malaya and the Malay Archipelago. Minerals, such as Chinese iron, are yet to be exploited. Hemp, jute, silk, plantation rubber, copra, coir, pepper, tapioca and camphor are other products.

Railways. Trans-Siberian railway in the north. Indian system local. Constantinople-Bagdad. A few lines in China.

ASSAM

Hill-Cradled Land of Tea Plantations

by Sir Bampfylde Fuller, K.C.S.I., C.I.E.

Author of "The Empire of India," etc.

TO most people Assam is merely a word of the tea-table. But to those who have lived there—and come away—it may be a very pleasant dream. For in this corner of India the dry season loses its dusty squalor; we are in a region of perennial green, contrasted with the glittering surface of huge rivers, and tiers upon tiers of blue mountains, forest-clad or dominating the plain with precipitous cliffs that are festooned with waterfalls. The dry winds of the Indian cold and hot seasons cease on the threshold of Assam, and it is for this reason that the tea plant flourishes there.

Geographically Assam is a backwater of Bengal in which it was administratively included until constituted a separate province in 1874. In 1905 it was reunited with Eastern Bengal to form the new province of Eastern Bengal and Assam; but, seven years later, it was again separated and re-constituted on an independent footing.

Valleys and Highlands of Assam

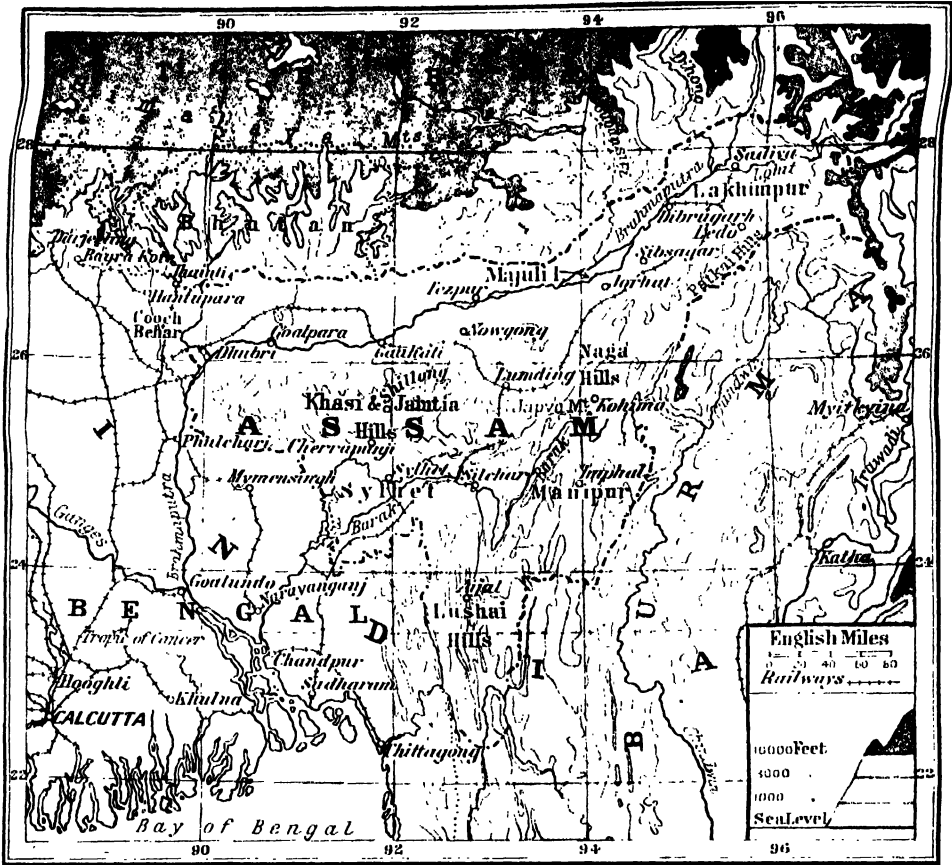
Including the protected Native State of Manipur, the province covers an area of 61,475 square miles, half of which, however, is very sparsely inhabited. It consists of two broad valleys, those of the Brahmaputra and Surma rivers, with an intervening mass of lofty hills that runs, like a wedge, into the great plain of Bengal out of the confused welter of mountains that lie between Tibet, China and Burma. The northern boundary of the Brahmaputra valley is the Himalayan chain; the southern margin of the Surma valley is formed by the hill ranges that, running north and south—roughly at right angles to the alinement of the Himalayas—are

the backbone of Burma and the Malay peninsula. The name "Assam," properly speaking, applies to the Brahmaputra valley only, but in its administrative sense "Assam" covers both the valleys and the hill-country between them; and it bears this connotation throughout this account.

Vast System of the Brahmaputra

The Brahmaputra (Assam) valley has a length of about 450 miles from its head among the hills of the Chinese frontier to the point where it debouches into the great plain of Bengal. Its average breadth is about 50 miles, at least a tenth of which is occupied by the river bed, its islands and its backwaters. Followed directly up its course, the river dwindles into the Lohit, from which, however, it receives a much less volume of water than is poured into it from the north by the Dihong, which forces its way through the Himalayan barrier and falls at right angles into the main stream. This river, as the Tsan-po, rises on the high plateau of Tibet far to the north-west and flows eastwards, on the farther side of the Himalayas, for 1,000 miles before its waters turn south and, in the channel of the Brahmaputra, flow in a precisely contrary direction. Between Lhasa and the point of junction its waters descend some 9,000 feet.

Farther down the Brahmaputra stream another large river, the Subansiri, flows into it from the Himalayas. Its outflow from the mountains is extraordinarily picturesque—rapids of deep, clear water swirling between rocky banks that rise into precipices crowned with forests. The spot has another attraction. It is one of the best localities for the large



THE MOUNTAINOUS PROVINCE OF ASSAM: A BACKWATER OF BENGAL

river carp known as the "mahseer," the game fish of India, which runs up to a weight of 50 lb. and over and readily takes a spoon bait. The Brahmaputra receives over thirty minor affluents from the north during its course down the valley; and streams falling into it from the south are hardly less numerous. The main waterway is navigable up to the inflow of the Dihong, and opens up the province to commerce.

The bed of the river has a pronounced fall, and its current is swifter than those of the other rivers of eastern India. Nevertheless, during the rainy season its waters spread to a width of several miles and at its lower end cover so much space that from a point in mid-stream neither bank is visible. Where the current flows rapidly sand is deposited; where it is backed, fine silt;

and, since the main stream is constantly shifting its position, sand may be covered with silt and this again with sand in a single season. Islands are numerous; one of them, the Majuli, covers 485 square miles. The river is generally fringed by marsh land, formed of fresh alluvium which, as it rises in level, merges into reddish soil that runs up to the foot of the hills on either hand. This is the land upon which the tea-plant flourishes. In places this red soil runs down to the river bank, ending in abrupt bluffs; and in three localities outliers from the southern hills encroach upon and cross the river bank, forming river passes of exceeding beauty.

The Surma valley is rather a bay in the hills than a valley, with a length of 125 miles, and half this in breadth. Its river, compared with the Brahmaputra,

is merely a tortuous system of canals. The surface of the stream at low water is but 22 feet above sea-level, and hence the current flows slowly in a meandering course and cannot discharge the immense volume of water which is received during the rainy season.

The rainfall on the northern watershed of the valley is astonishingly heavy, in some localities amounting to 30 or even 40 feet per annum. A great part of the valley is consequently flooded during the summer months. Steamers of light draught may leave the river bed and steer across country over the fields. Viewed from the top of the hill scarps to the north, the district is at this season a lake upon which clusters of houses seem to float like wasps' nests adrift. The villages present this appearance because they are built at the top of mounds, natural or artificial, that rise above flood level; and thus cramped for space the houses are closely packed together. The people live an amphibious life, spending their time in boats or in the water, fishing or gathering water-grass for their cattle. In these curious conditions a peculiar

kind of rice has evolved that can lengthen its stalk as the water deepens, up to seven or eight feet and even more.

When the rainy season is over and the floods subside, the country is a sea of bright green rice from which the villages stand out as brown hummocks. Much tea has been planted along the margin of the plain and the valleys that run into it; but over an area only half that in the Brahmaputra valley.

The so-called "hill districts" which lie between the two valleys would be called mountains elsewhere. Much of them lies at 5,000 feet above sea-level and one peak (Japvo) rises to 9,795 feet. On the east the hills rise sharply from deep and narrow valleys and are densely forested, although much of the growth is bamboo. To the south-east, before reaching the Burmese frontier, they retire upon themselves to form the upland valley of Manipur, a broad and very fertile oasis of cultivation encompassed by mountains. It was formerly a vast lake and much of its surface is still under water. As one advances westwards, jungle gives place to grass on the hilltops, and



Major-General D. Macintyre

STEEP PITCHED DWELLINGS OF A HILLSIDE VILLAGE IN ASSAM

Abor villages, perched on steep hill slopes, are mainly a compact collection of grass-thatched roofs supported by props of stout bamboo. Each village is ruled by a kebang, or village council, and levies a tax on goods and strangers passing through, all being done by barter



MAIN STREET OF A NAGA HAMLET IN THE HILL COUNTRY SOUTH OF THE BRAHMAPUTRA RIVER

The Naga Hills form a district of eastern Assam, comprising a section of the mountainous tracts on the borders of Burma and covering an area of 3,070 square miles, practically none of which is cultivated. They are occupied by the Angami, Lolo, A.C. and Sema Naga peoples, and their language and customs differ in the most startling manner, although the villages are almost within sight of each other. Much ingenuity is displayed in the building of their houses; the small poles and bamboos are drawn from the surrounding forests, which, where they are not under strict conservation, are exploited at pleasure by the tribes.



Dr. W. H. Furness

IN A VALLEY AMONG THE NAGA HILLS OF EASTERN ASSAM

Besides growing rice, millet, chillies, cotton, yams and Indian corn in the cultivated plots at the foot of their hills, the Naga tribes keep pigs, poultry, cattle and dogs, all of which they eat, and prepare salt from the brine springs found among the ranges. These natives are dragging a large boulder into their village, where it will be set up as a monument to commemorate a tribal feast.

towards the western end of the highlands there are long stretches of open downs diversified here and there with low, wooded hills. The administrative capital of the province, Shillong, is situated on a pine-clad slope just below the edge of these down-lands.

The northern slopes of the hill-country, fringing the Brahmaputra valley, are sloping and well forested, but its southern margin overhangs the Surma rice plain in a line of precipitous scarps the summits of which receive the heaviest rainfall in the world. The monsoon current from the Bay of Bengal sweeps up to them across the low country, must suddenly mount 4,000 feet, is rapidly cooled in the ascent and

precipitates its moisture in cataracts of rain. Over a foot of rain may fall in the course of a night. But the days are not uncommonly clear, even during the height of the rainy season. With an air so well washed the locality is very healthy and the village of Cherrapunji, on the edge of the cliff, was used for some years as a military sanatorium. Scarps of limestone at the foot of the cliff have for centuries supplied eastern India with its lime, the river affording an economical means of export. On the slopes of its ravines there are gardens in which oranges, betel nuts and pineapples grow luxuriantly.

The hills of Assam lie in an angle formed by mountain chains which,



AMONG THE MOUNTAINS OF ASSAM : VIEW OF NERHAMA. A VILLAGE OF THE ANGAMI NAGA TRIBE

Assam is a province of mountains and valleys, with many forests and extensive rice fields and tea gardens. It is sparsely inhabited by a mixed population and its highlands afford an asylum for numerous primitive tribes, chiefly of the Tibeto-Burman stock. Peaks and ranges are rarely absent from the landscape : they are generally uneven and may be described as wild and forest clad, though the vegetation varies and in some parts there is dense, impassable jungle. The hill tribes have their villages clustered about the base of the mountains, sometimes at a considerable height.

Dr. W. H. Furness

running west and east, are suddenly twisted north and south; and it seems likely that they were forced up by the pressure of this torsion. The configuration of the opposite (western) corner of upper India is very similar, and there also a group of hills—the Salt Range—lies in the angle. In both localities earthquakes are of frequent occurrence, resulting, it seems, from a gradual relaxation of cross-pressure.

In the Brahmaputra valley the annual rainfall averages about 80 inches; in the Surma valley it considerably exceeds 100. The rainfall of Assam is at least three times the Indian average. But its value lies in its distribution rather than in its amount. The long drought which generally in India succeeds the storms of the winter months is broken in Assam by spring showers which are of the utmost value to the crops. Moreover, during months when no rain falls there are thick morning fogs which provide growing vegetation with the moisture that it requires.

Bamboo Jungle Sprung from Ashes

The natural vegetation of the lowlands is a dense growth of elephant-grass, often rising to a height of eight or ten feet. They are treeless except for scattered examples of the *Bombax malabaricum* which fortunately yield wood that is peculiarly well suited for the making of tea-boxes. As the land slopes up from the rivers, dense forest commences composed of a great variety of trees, some of which attain a great height, set in a thick undergrowth of prickly cane that is almost impenetrable. Bamboo jungle clothes much of the hillsides, its spread having been encouraged by the habits of the people. They periodically cut down and burn their forests to cultivate crops upon the ashes. Such a clearing is fruitful for two or three years only; it is then abandoned and relapsing into wilderness grows bamboo in place of its original timber. Above 3,000 feet pine trees appear of a kind (*Pinus khasia*) that is characteristic of the

Assam hills, and higher up oak trees grow abundantly.

Most of the hill forest is of little commercial value. But towards the western end of the Brahmaputra valley there are valuable forests of sal (*Shorea robusta*) which are conserved by the Forest Department. Many of the trees are brightly flowered and in the spring throw up clouds of colour upon the dark green of the hillsides. Nor should a reference to the orchids of Assam be omitted; they festoon the trees, or overrun their branches, up to a considerable height above sea-level. At an altitude of more than 4,000 feet, in country resembling an English park, the trees bear magnificent bunches of the lovely blue vanda (*V. coerulea*).

Big Game in Valley and Forest

The most distinctive wild animals are the elephant and rhinoceros. The former haunts the marsh lands and the lower valleys in large herds and causes much damage to the rice and sugar-cane crops, although it is caught and tamed in its hundreds. The rhinoceros is becoming rare and the government has established some sanctuaries for its protection. On the border of the Surma valley a smaller two-horned kind marks the overlap between the faunas of Malaya and India. Wild buffalo abounds in some parts of the Brahmaputra valley. There are deer of several kinds in the forests. Tigers are fairly numerous but afford less chances to the sportsman than in the open jungles of Central India. In the Surma valley they are sometimes trapped in nets.

Living Clouds of Myriad Insects

The birds of the province naturally include a great variety of water-fowl; jungle-fowl, very similar to the domestic bantam, abound in the lower hills. A characteristic bird of the hills is the hornbill, whose black and white feathers are used to decorate the hill warrior, arranged to stand out round his head like a gigantic aureole. Snakes are numerous; the king-cobra is dreaded by



Assam-Bengal Railway

FOREST LEVIATHANS TRAINED TO THE SERVICE OF MAN

In Assam wild elephants abound and many are annually decoyed into traps in the forests, and are either killed for the ivory which they furnish or taken alive into captivity, where they are quickly tamed and trained to hard labour. Economically the Indian elephant is valued chiefly for its qualities as a draught animal. Large numbers of these tamed beasts are exported from Assam

the tea-pickers, and in the forests the python threatens larger animals with strangulation. But the most insistent of living things are the insects. During the rainy season they emerge in clouds and as evening falls will smother a lamp, and those who sit near it, unless excluded by mosquito netting.

Of cultivated plants rice is by far the most important to the life of the people, occupying three-quarters of the cropped area. A rice diet must be supplemented with nitrogenous food, which in most Indian provinces is supplied by a great variety of pulses. The people of Assam depend very largely upon fish for this element. Some pulse is grown, but under unfavourable conditions. Rice may be sown in spring and reaped in July before the season of high flood, or be set out

laboriously in seedlings during the summer and gathered in late autumn. The latter is by far the most productive method of cultivation.

The lowland rice crop is in danger of being swamped even in tracts lying away from the big rivers, since, when these are in flood, the water of their affluents is held up and spills across country. Their overflow must be controlled by embankments which were freely constructed during the days of native rule, but have very commonly fallen out of repair.

On higher ground the dead level of the rice fields is broken by gardens and fields of sugar-cane, and in the Surma valley tall crops of jute stand out. In the Brahmaputra valley much mustard is grown during the cold



Noel Williamson

VIEW OF THE UPPER LOHIT, AN AFFLUENT OF THE BRAHMAPUTRA

The Brahmaputra, which ranks next to the Ganges and the Indus among the great Indian waterways, traverses the Assam valley for 450 miles, and many tributaries from the adjoining mountains flow into its waters. The Lohit, together with the Dihong and Dibong rivers, passes into the Brahmaputra near the town of Sadiyá, in the north-eastern extremity of Assam



SAVAGE VILLAGE RAIDER BROUGHT TO HIS LAST ACCOUNT

Of the numerous wild animals - elephants, tigers, leopards, bears, rhinoceroses, buffaloes, etc. -- with which Assam is infested, the elephants make serious depredations from time to time on the villages, but the deadliest foe of the villager is the man-eating tiger. The killing of one of these beasts, for which a government reward is granted, is the occasion of general rejoicing

weather months on islands in the river bed, and on low lands that are flooded during the rains, covering thousands of acres with a sheet of bright yellow. A product peculiar to this valley is silk of the kinds known as eri and muga. The caterpillars of the former are fed under cover with leaves of the castor oil plant. Those of the muga are left to feed themselves upon tree-laurels of several species but require much attention in the scaring of birds.

The tea plant grows wild on the eastern hills of the province, often attaining the height of a moderately-sized tree. Its discovery a century ago induced the government to undertake experiments with the Chinese plant, Chinamen being imported for the purpose. But it was found that Assam seed was by far the more productive, and the Chinese strain now persists only as an element in a hybrid.

The cultivation of tea involves much labour in reclaiming, hoeing, pruning and leaf-picking; and, in consequence of the prices at which the tea could be sold in Calcutta, it was necessary that the labour should be cheap. The

Assamese could not be induced to work at the wages offered, and are perhaps constitutionally disinclined to continuous and monotonous labour. Coolies were therefore imported from northern and central India, the planters being secured against risks of their absconding on arrival by a law that enabled them to engage coolies under a four years' contract, renewable from time to time on the gardens, and authorised them to arrest absconding coolies and make them over to the authorities for summary punishment. On the other hand, the law safeguarded the labourers' interests by providing for a minimum wage, the maintenance of hospitals and the periodical inspection of gardens by the local magistrates. Recruitment under these conditions has raised an army of foreign labour. During the thirty years from 1871 the strength of the imported force of coolies rose from 50,000 to half a million. But the tea industry will always be haunted by the labour problem. Higher wages can only be offered by increasing the price of tea to English consumers or by decreasing the profits of the agents and brokers

through whose hands it passes on its way to the retailer.

During the last half century the output of tea has risen from 11,000,000 lb. to 182,000,000 lb. and over, commanding in the London market over £9,000,000. The area under tea is now 418,000 acres, two-thirds of which are in the Brahmaputra valley. The number of gardens has risen to nearly 900.

Coal beds occur at many places in the hills, but are too inaccessible to be worked on a commercial scale. At the eastern end of the Brahmaputra valley there are seams of surprising thickness which have been tapped by the railway and are actively exploited. They provide fuel for the fleet of river steamers and for the tea-firing houses throughout the valley, with an annual output of about 300,000 tons. In this locality, and also at the eastern end of the Surma valley, there are oil wells producing ten million gallons a year. But the subterranean reservoirs upon which they draw do not appear to be very extensive.

Railways run into and through the province from two directions. From the northern railway system of Bengal a line crosses the Brahmaputra at Gauhati and continues up the valley on the southern side of the river. From the seaport of Chittagong another line traverses the Surma valley, crosses the hills with a northward bend, descends into the Brahmaputra valley and, joined at this point by the line from Gauhati, runs up the valley to the



DR. W. H. FURBER

PORTAL POSTS OF BACHELORS' BARRACKS

Many ritualistic objects appear before the entrance to a morang, the barracks of the unmarried men of certain Naga tribes. These quaint wooden posts have undoubtedly a totemic significance; the front one is known as the male post and the other as the female

eastern limit of its cultivation. Assam, however, always enjoyed good natural communications in its waterways, and these are still used very extensively. A large fleet of steamers plies regularly on the Brahmaputra.

The total population of the province is 7,990,246, distributed 3,855,892 in the Brahmaputra valley, 3,068,569 in the Surma valley and 1,065,785 in the hill districts, including the Native State of Manipur. There are no towns with a population as large as 20,000 and only four (Dibrugarh, Gauhati, Shillong and Sylhet) contain as many as 16,000

inhabitants. The people are essentially agricultural, and live near their fields. Save for the Khasis, the oldest racial strain in the province is the Tibeto-Burman. The hill tribes have preserved many striking and peculiar customs. The valley population has been profoundly modified by foreign immigration and conquest, and by the influence of foreign religions and social ideals.

The people of the Brahmaputra valley are fairer complexioned than the Bengalis, and under easier conditions of life are less actively industrious. They are of agreeable manners and very pleasing appearance in their straw-coloured silk. They speak a language of the same origin as Bengali, with peculiarities of which they are proud. It is sometimes urged to their discredit that they are the largest eaters of opium in the world. This is so. But the consumption of opium varies directly with local unhealthiness, being highest in the belt below the hills, where bowel complaints are exceedingly rife; and it may be inferred that the drug is used as a defence rather than as an indulgence. The fatal disease of Kala azar, or blackwater fever, is the scourge of Assam. It is apparently endemic, but periodically breaks out with dreadful intensity. Its origin is still unknown. But an antidote has been discovered in injections of tartar emetic.

The inhabitants of the Surma valley are for the most part Mahomedans. The country is densely populated and since life involves effort the people are

energetic and enterprising. They have begun to migrate to the Brahmaputra valley and make new houses on its waste lands. They speak the language of Bengal.

The people of the hills, collectively known as Nagas and Kukis, comprise a score of tribes differing markedly in dress, manners and language, but not essentially in race. In the past they have given trouble by raiding villages and tea-gardens across their borders and for their control a force of military police is maintained at various points.

The Khasis inhabiting the western highlands are a strange survival of a race that has almost passed away. In language and manners they have no Indian affinities and their relations are with far-distant peoples in Burma, Cambodia and Annam. Their family system is matriarchal. The men are industrious workers, although—what is rare in India—they enjoy hunting and fishing for sport's sake. They have made a greater advance towards the civilization of Europe than any other hill people of India.

Finally there is the tea-planting community. The imported labour force now adds about a million and a quarter to the population, if families are included which have left plantation service and have settled on the land. The Englishmen in control, with their families, do not number more than 1,200 and are only sojourners in the East. But the enterprise that they represent has completely transformed the face of the whole country.

ASSAM: GEOGRAPHICAL SUMMARY

Natural Divisions. North, narrow valley floor of the Brahmaputra. Centre, wider valley floor of the Surma. Hill country between the valleys and along the Burmese boundary.

Climate and Vegetation. Monsoon climate, with special features; excessive heavy summer rains. Cherrapunji is one of the rainiest places in the world; slight rains during the rest of the year. Jungle forest at the foot of the slopes. Bamboo secondary forest in areas cleared of the primeval trees. Treeless plains with

elephant grass. Parkland or downs on the lower heights.

Rivers. Brahmaputra and Surma, both highways of traffic.

Industries. Tea planting for the world. Growing native food grains and fishing. A little mining. Chief product, tea. Coal in the north-east.

Natural Outlets. No outlets to Tibet or Burma. Communications are limited to Bengal by rail, water and road.

Outlook. The future lies with the tea industry and the supply of coolies from other parts of India.

ATHENS

“Violet-Crowned” Capital of Greece

by A. J. B. Wace

Late Director of the British School of Archaeology at Athens

LIKE many other famous cities, such as Constantinople or Naples, Athens is best approached by sea. As the steamer rounds the eastern end of Salamis the traveller has a wonderful panorama before him. Directly in front lies Piræus with its harbour and its factories, while to the east the white villas and hotels of Phalerum stretch along the shore of a sandy bay which makes an ideal summer resort. Inland to the north some four or five miles from the coast a tall, pyramidal hill crowned by a white chapel attracts attention.

This is Mount Lycabettus, and round its western, southern and eastern slopes lies the Athens of to-day. At first, in contrast to the dark green pines that clothe the foot of the hill, the white houses of Athens dazzle the eye, but soon, rising from among the modern buildings, the rugged rock of the Acropolis dwarfs all else.

Classic Shrines Seen from Piræus

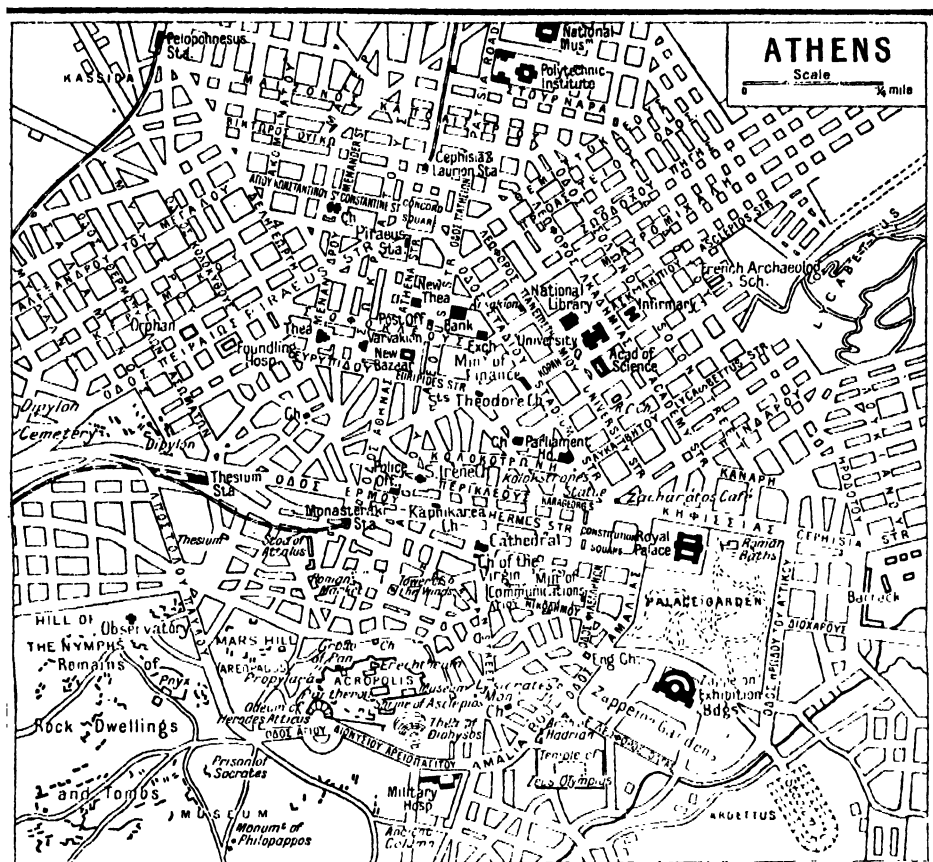
On its summit, defying time, still stand the marble columns of the Parthenon—the temple of the virgin Athena, goddess of wisdom, and the most perfect ever built—and by them are the ruins of three other marble buildings, the Temples of Erechtheus (an early mythical king of Athens) and of Victory, and the Propylæa, the wonderful marble portico that forms the approach to the sacred rock. Below the Acropolis the modern streets radiate in all directions round Lycabettus and where the houses cease the vines and olives begin, broken here and there by stately groups of cypresses. Farther afield rises the trinity of famous

mountains that guard Athens from the north and east—Parnes, Pentelicus with the white scars of marble quarries shewing whence the blocks of the Parthenon were hewn, and Hymettus, “a blue and barren hill” of indescribable charm in which is the Grotto of Pan.

Through Phalerum to the City

Soon the ship casts anchor in the safe but crowded harbour of Piræus. A crowd of shouting boatmen surrounds the ship and, formalities ended, dashes on board in loud competition for the passengers. The uninitiated might at first fancy the ship was being captured by pirates. Once safe on shore, the traveller need pay no attention to Piræus, which has little to recommend it and, though strenuous efforts are being made to improve its appearance, still seems overcrowded, dirty and no different from any other ordinary Levantine port. Leaving Piræus by some narrow and unattractive streets and crossing two inconvenient bridges over the electric railway which unites Athens and Piræus—the most efficient service in Greece—we reach New Phalerum. Here are good hotels and restaurants, a promenade, a pier and bathing-cabins.

On summer evenings when the band plays it is crowded with Athenians who come to seek refreshment in the cool sea air after the hot and dusty day. An electric tram in addition to the electric railway connects Athens with New and Old Phalerum, which lies on the other side of the bay and is equally frequented. On summer mornings the trams to and from Phalerum are crowded with bathers of both sexes carrying bundles of towels and



PLAN OF THE GREEK CAPITAL AS IT IS TO-DAY

swimming-suits, for sea bathing is extremely popular with all classes.

For a short distance the road runs along the shore of the bay, and then turns inland and heads straight towards Athens. About halfway we pass on the east a new church of S. Saviour erected by King George I. as a thank-offering for an escape from assassination; round this a settlement for refugees from Asia Minor is being constructed. Soon we enter the outskirts of the city, and passing a large brewery, belonging to a foreign firm, we turn to the left and enter Athens. To our left rises the Acropolis and at its foot to the south is a new residential quarter in course of development. On our right stands the Arch of Hadrian—showing where the limit of Athens once was—with the noble columns of the Temple of Zeus Olympius just beyond.

This temple was begun by the Tyrant Peisistratus in the sixth century B.C., almost finished by Antiochus Epiphanes in the second century B.C. and finally completed by Hadrian in the second century A.D. Its building thus was spread over seven centuries. Behind it, in a fold of a wooded hill, lies the Stadium of glittering white marble, rebuilt on the ancient foundations through the generosity of George Averoff. Athletic sports and displays are frequently held here, while the existence of a gymnasium and of tennis courts near by shows that the youthful Athenians of to-day are taking up athletics of all kinds.

We now pass along the Boulevard Amalia. One side is lined with fine private mansions mostly of marble, while on the other side lie the Zappeion and Palace Gardens. The latter with

its shady walks and gay flowers are frequented by Athenians of all classes in search of rest during the day. In the centre of the Zappeion Gardens is an exhibition building now used as an orphanage for refugees and by its side are a café and restaurant. From the café, which is extremely popular on sunny afternoons in winter or cool summer evenings, one of the finest views in Athens is obtained looking over the Bay of Phalerum, the Saronic Gulf and the island of Aegina. The violet lights

at sunset over sea and land here produce a truly magic effect.

Beyond the Palace Garden our road enters Constitution Square and we are in the centre of the city. All life in Athens is based on a triangle of streets. The base is Stadium Street, which unites Concord and Constitution Squares, while Hermes and Aeolus Streets form the two sides. Constitution Square is the resort of the upper classes, Concord is the people's centre. Similarly, Hermes Street with the end of Stadium Street



R. N. A.

MAGNIFICENT FRAGMENTS OF THE TEMPLE OF OLYMPIAN ZEUS

One could imagine no sight more impressive than that which is presented by these tall, stately Corinthian columns standing majestically before the Parthenon-crowned Acropolis; here the only incongruities are the modern buildings on the left and the dress of the visitors. Such great relics as these columns make Athens a city whose treasure is coveted of all the world's nations

nearest the Constitution Square is the Bond Street of Athens, while Acólus Street with the other end of Stadium Street is the humbler citizen's shopping ground. In Constitution Square is the Royal Palace, used as a centre of refugee organization; in the square before it stands a long line of cars for hire,

boys, who have even been known to penetrate into a garden party to supply the guests with the latest news, and with them go the boot-blacks. These latter, a characteristic feature of Athenian life, are now slowly being replaced by shoe-shine parlours in the American fashion. Those seated at the café

tables are approached by itinerant venders of pistachios, salted almonds and similar delicacies, consumed to "pass the time" as their ordinary name implies.

As we go along Stadium Street towards Concord Square we pass few important buildings, as those we see are mostly shops or hotels. A short distance along the street is a small square with an equestrian statue of Kolokotronis, one of the heroes of the War of Independence. On one side of this is the Parliament House (Chamber of



John Bushby

ATHENA NIKE'S ACROPOLIS SHRINE

Mellow Pentelic marble is the material from which this beautiful Ionic temple was built; it stands on a bastion of the Acropolis to the south of the Propylaea. Restoration was carried out in 1835

and at one corner a collection of stalls supplying cheap, popular refreshments. In the same square stand the principal hotels where the cosmopolitan life of the Levant may be studied in all its aspects; the Ministry of Communications, a handsome modern building; the best bookshop; and, most important of all, the Zacharatos Café. This last is never shut; intelligent citizens may be seen seated at its tables tirelessly discussing politics at all hours of the day and night. It reflects at once every throb of the political pulse.

On sunny days in winter and on summer evenings the café tables extend into the square, where at night the moving pictures flicker. The modern Athenian loves his café—it is his club; but most of all does he love to stroll slowly on holiday afternoons or clear evenings across the crowded square or along the busy Stadium Street. Through the throngs run the newspaper

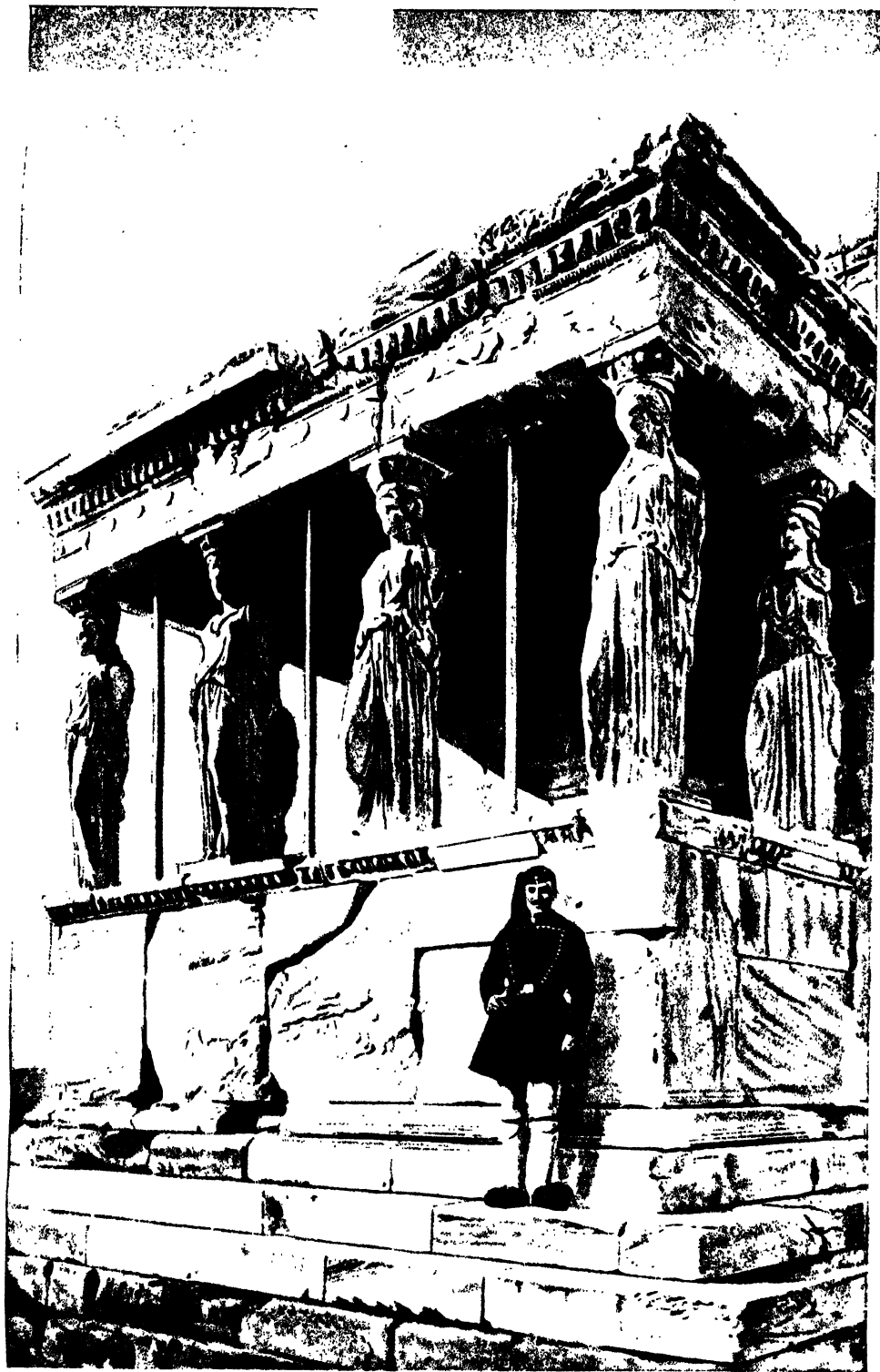
Deputies), a small and unpretentious but graceful building of marble with a pleasant garden. Farther on are the Ministries of Finance and Interior Affairs, large dingy buildings behind which is a small square with the church of S. Theodore, a gem of Byzantine architecture of the eleventh century. Next we come to Sophocles Street, the Wall Street of Athens where the principal banks are and the Stock Exchange. The streets round the latter are crowded with excited brokers speculating on the pound or dollar.

Round Concord Square are the cafés of a more popular type—this is the centre of the night life of Athens—and several theatres. The latter are summer theatres, roofed only with a canvas awning, and prices are not high. They have been very severely affected by the competition of the cinemas, but the theatres still attract. Comedies and musical pieces are usually played and in the



ATHENS. Though scarred and weathered, the western columns of the Parthenon still preserve the superb harmony of their proportions.

Photographs on pages 341-342: F. X. A.



ATHENS. Patient grace is embodied in these caryatid figures that carry the roof of the porch on the south wall of the Erechtheion

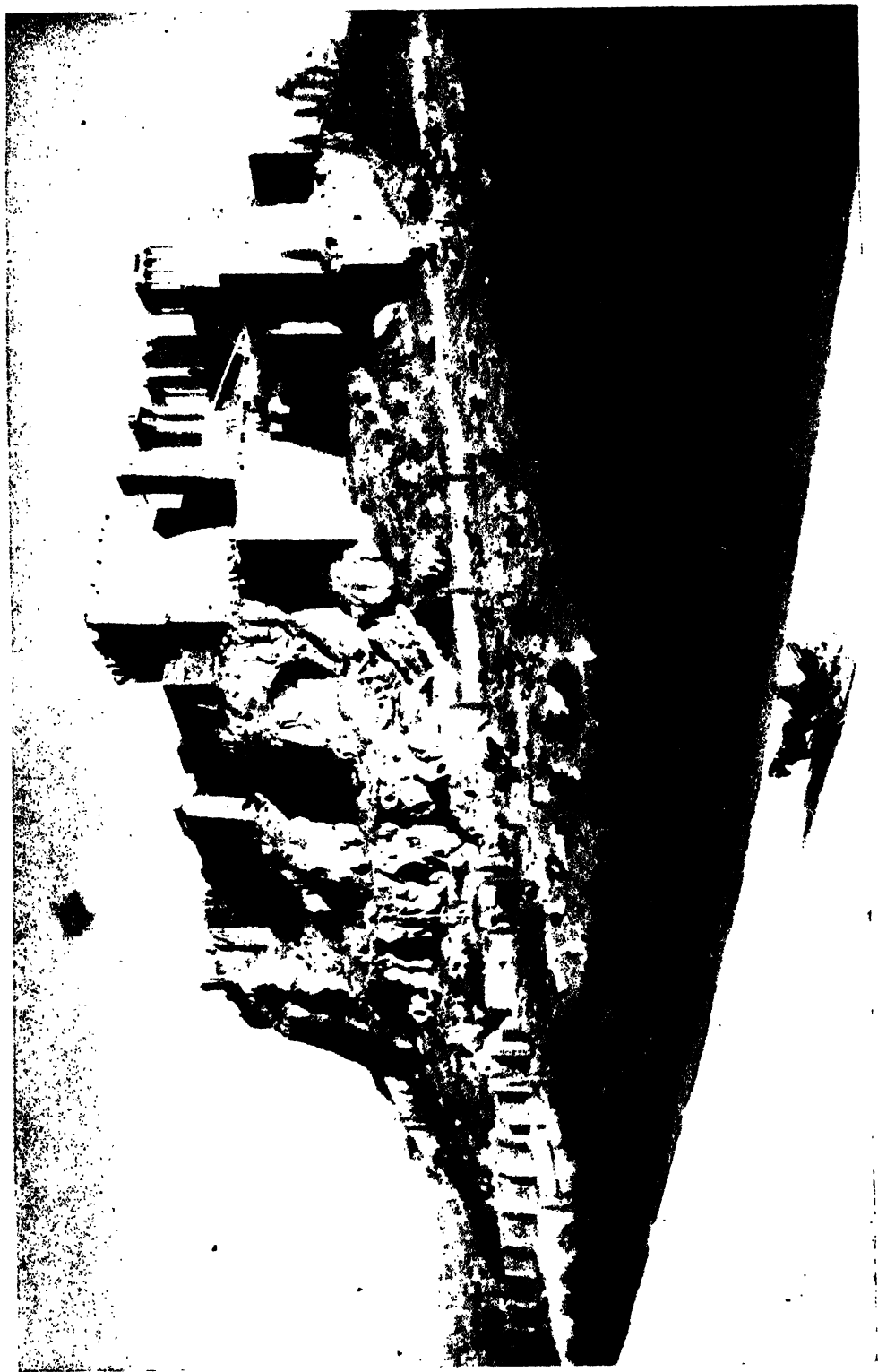


ATHENS. Not only the Parthenon but every shattered stone on the Acropolis height has a tale to tell of the city's ancient greatness



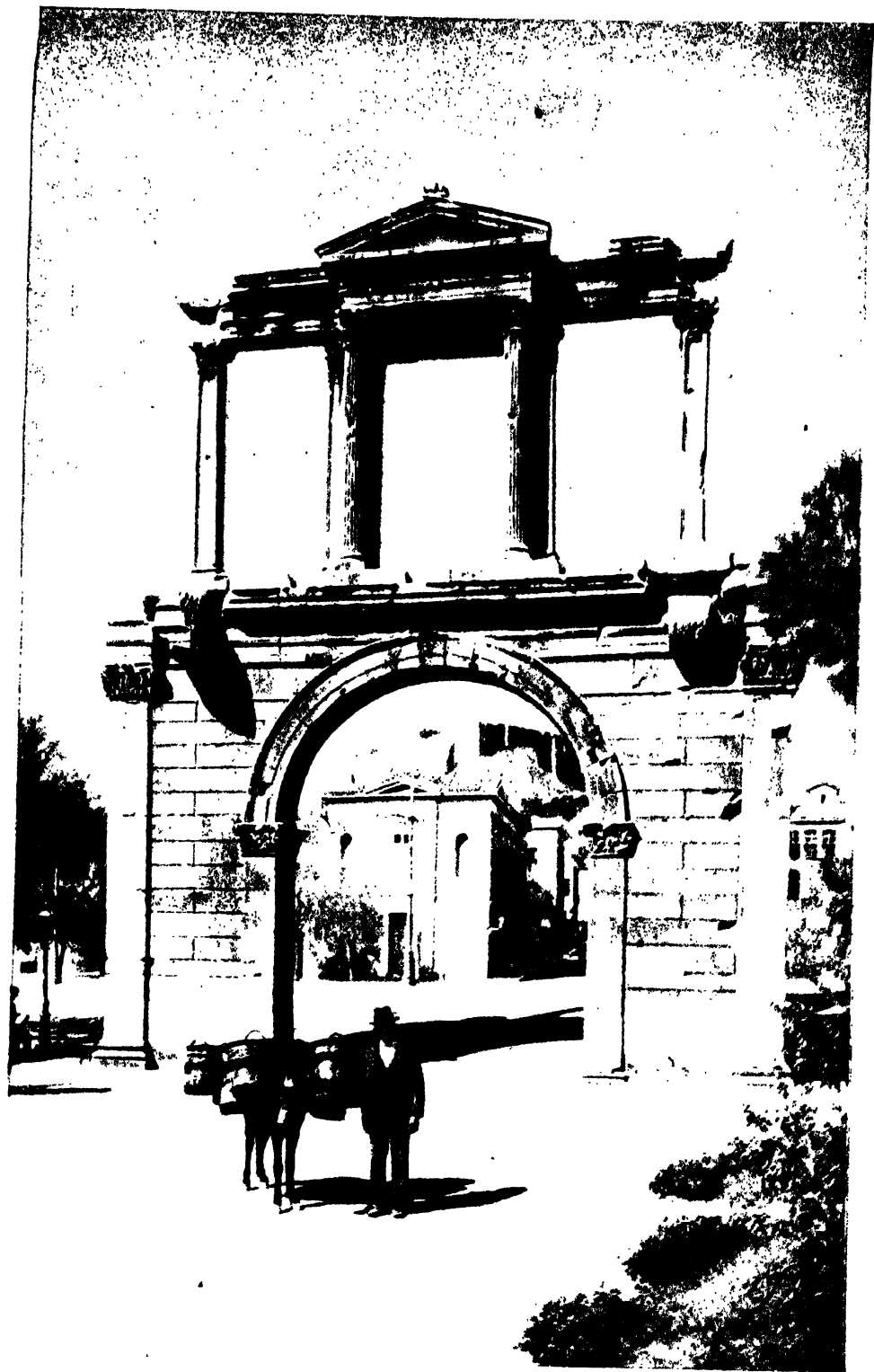
344 With the great crags of Mount Lycabettus and distant
 Pnyx lies, as a background foil, the Acropolis commands the entire city.

Below is the Odium of Herod's. Officers are, which towers the
 Propylaea in a line with the Temple of Erecchthons and the Parthenon





ATLANS. Time worn but beautiful the Fir cliffs and 1 ft. beds of ice from the north. Components of the Fir cliffs on the Th. summit and ice as 400 meters of the road to the summit. The road is a 1000 ft. long.

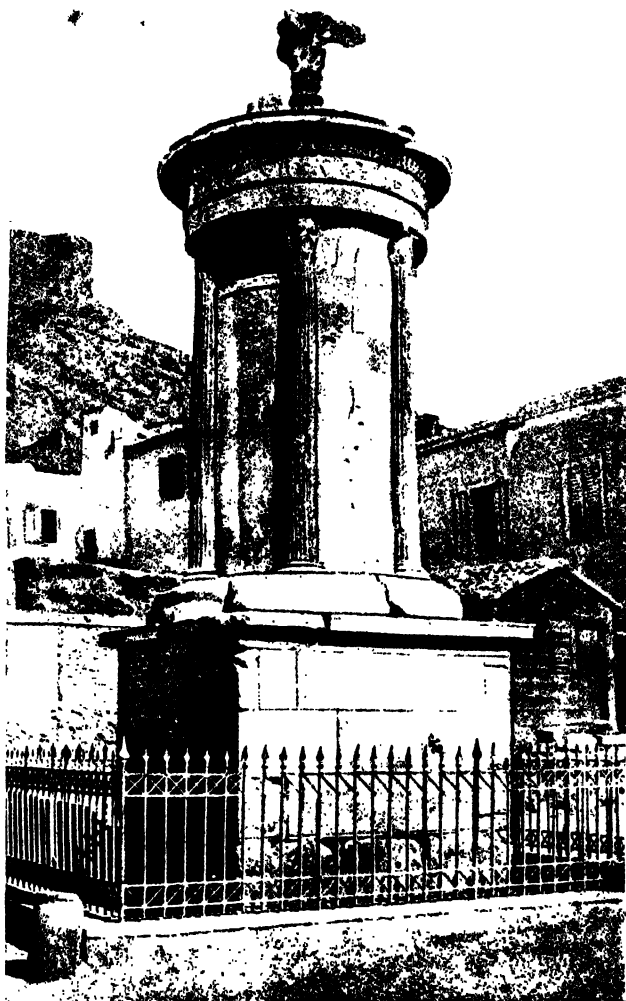


ATHENS. A glimpse of the columns of the Parthenon, rising over its flanking bastion, through the ancient arch of Roman Hadrian

latter sentimental songs or songs with Greek music are usually well applauded.

Revues full of topical allusions appear every summer, and their comments on current politics are often very witty and much to the point. One curious feature is that although all the front seats may be full, front seats can still be secured by hiring at a higher price chairs which are put in the open space between the stalls and orchestra.

From Concord Square start most of the electric trams, which provide communications to all parts of the city. Those that run along the Patisia Road, a populous and growing residential district, are always overcrowded. The front car has every seat occupied, and in the gangway and on the platforms no standing room is ever available. The trailer is in a similar state of congestion, while soldiers or errand boys with bundles will be perched on the steps and on any projecting part of the car that offers hand or foot hold. On many routes small motor omnibuses now compete successfully with the trams. Along the Patisia Road lie the Polytechnic Institute, a technical high school built of Pentelic marble with Ionic and Doric colonnades, and the National Museum which is a simple building but a veritable treasure house. It contains all the jewelry and other precious objects found by Schliemann in the royal tombs of Mycenae, the best sculptures from Delos and, not least, an unrivalled collection of Greek vases.



FAMOUS MONUMENT TO LYSICRATES

Lysicrates Street, which runs to the Arch of Hadrian, has at its Acropolis end this elegant monument, set up in 334 B.C. to commemorate the victory of Lysicrates, when choragus (leader of the chorus) in a notable musical contest

Close to one side of Concord Square lies the station of the narrow gauge railway to Cephisia, affectionately termed by the long-suffering Athenians "The Wild Beast" from its behaviour. It is slow and clumsy, the rolling stock is dirty and prehistoric and the engine belches forth clouds of cinders or soot which blacken and even at times burn the clothes of the passengers. In spite of these disadvantages and the competition of the motor omnibuses, this train



LIKE A SOLITARY SENTINEL MOUNT LYCABETTUS WATCHES OVER THE CITY OF ATHENS
A. K. RITTERER

Looking from the foot of the Acropolis towards Mount Lycabettus our view embraces within its range the best social quarter of the city with the centre from which it radiates in Constitution Square and the Royal Palace. Here we may distinguish Constitution Square as the tree-planted space in the centre of the photograph, where the tall cypresses stand out conspicuously; the Royal Palace is on its left, a great pile of modern date, with the Palace Garden stretching behind it. Dominating all, in the distance, is the prominent escarpment of Mount Lycabettus



TOWERING IN LONELY SPLENDOR OVER THE BUSY TOWN : THE WALL-GIRT ATHENIAN ACROPOLIS A. K. RITTNER

Epitome of the Athens that was, the glorious city of antiquity from whose ruins the Athens of to-day has risen like the Phoenix, the Parthenon-crowned Acropolis still rears its majestic bulk to dominate the landscape. In the foreground here we have the windowed walls of the Odeum or Concert Hall of Herodes Atticus, a wealthy and philanthropic Graeco-Roman of the first century A.D.; while above it the Propylaea on the left and the Parthenon in the centre are silhouetted against the sky. On this, the southern flank of the Acropolis hill, the modern city does not encroach



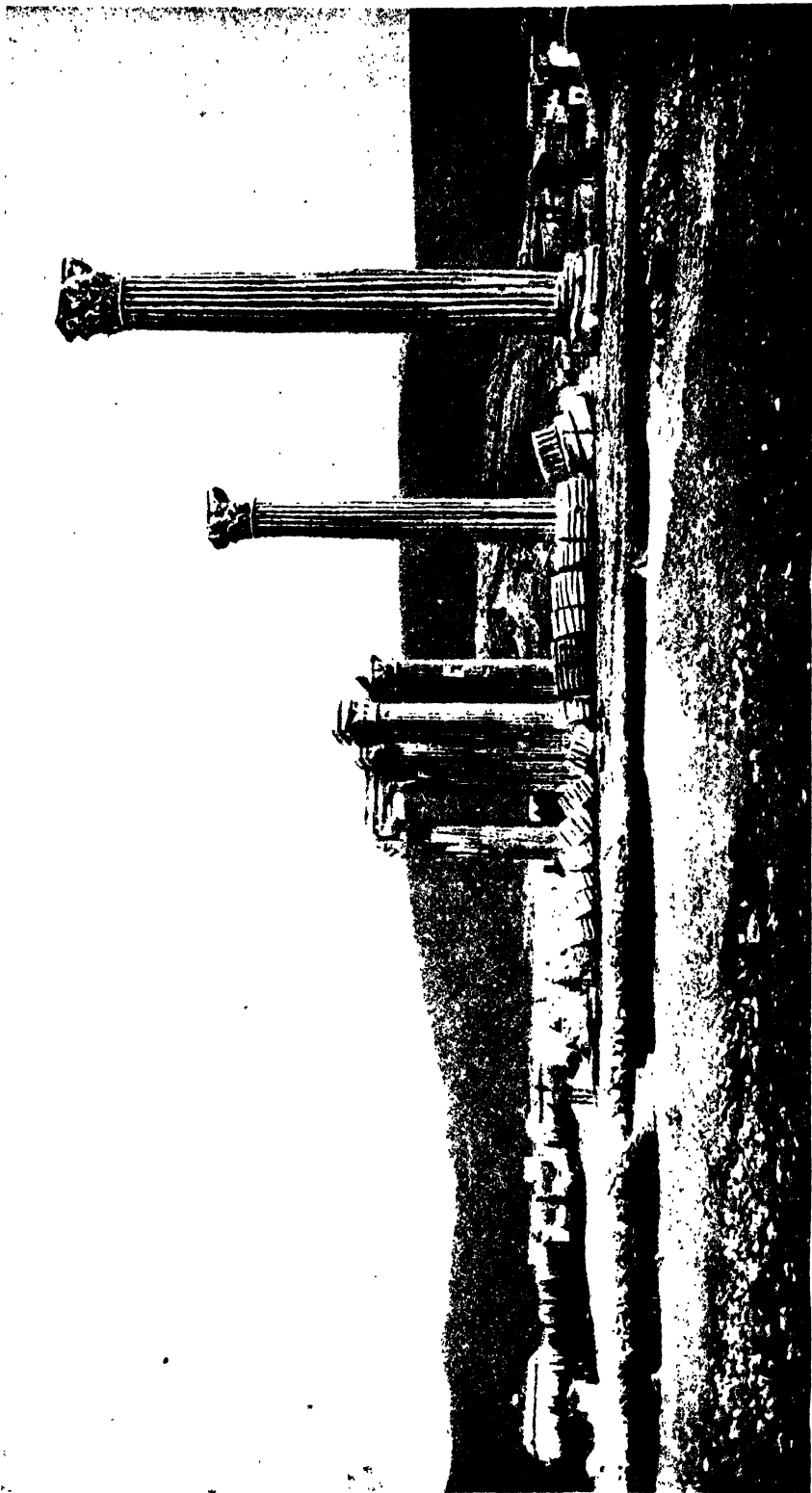
A. K. Bittner

PANORAMA OF THE SOUTH-EASTERN END OF THE CITY, LOOKING FROM THE ACROPOLIS

By reason of the outstanding heights on its otherwise level plain, Athens is a city of wonderful views. Standing here beside the Parthenon our view is cast over the south-eastern portion of the town; in the centre stands Mount Ardetus with the columns of the Temple of Zeus Olympius before it and the Arch of Hadrian still nearer to us. The public gardens are on the left with a corner of the modern Zappeion Exhibition Building; behind the shoulder of the small undulation of Ardetus we may see the open end of the great Stadium and its portico



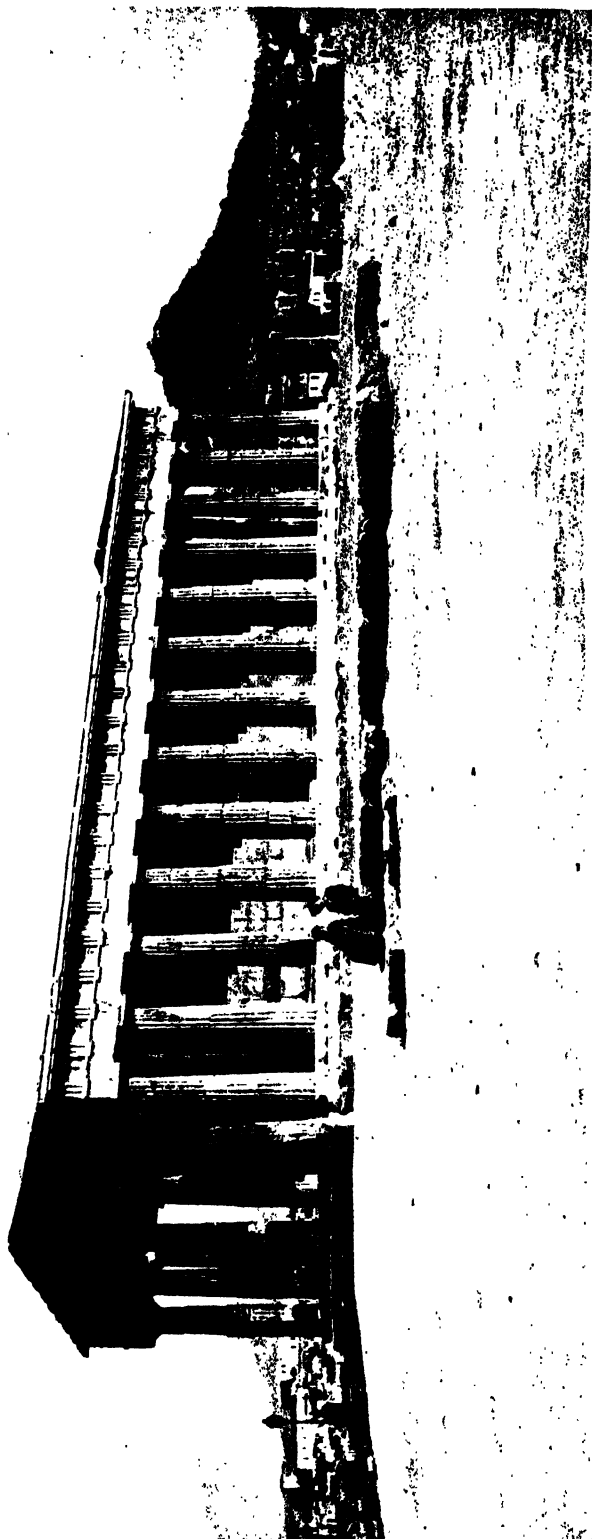
E. S. A.
SUNSET STRIKES A LAST SPARKLE FROM THE FACETS OF A SPLENDID JEWEL: ATHENS IN ITS MOUNTAIN SETTING
 Seen from the sweeping expanse of the Bay of Phalerum no view could excel the prospect of the fair city with its crowned heights of Lycabettus and the Acropolis before the darkling background mass of distant Pentelicus. Between farther Lycabettus and the nearer Acropolis on whose summit we may, even from this distance, distinguish the façade of the Parthenon and the Propylaea to its left, are seen the white walls of the modern buildings in the city; below stand the houses of the modern city, while on the left we can glimpse the houses of Old Phalerum, a popular resort in Athens to-day.



John Bushby

AGE-OLD COLUMNS OF A WHILOM PEERLESS SHRINE: THE TEMPLE OF ZEUS OLYMPIUS

All that remains of one of the largest Greek temples ever built are the six or seven huge columns—one of them prone on the ground—of the Temple of Zeus Olympius. Most of its work was accomplished by Antiochus Epiphanes on Peisistratus' foundation, but it was incomplete till Hadrian's day, and in it stood a mighty statue of its god in gold and ivory. The temple is hard by the Zappeion Gardens in which are the Exhibition Buildings and lies at the junction of the Boulevard Anafiotika and Lysikratos Street, commanded by the Arch of Hadrian.



John Bushby

TIME-DEFYING RELIC OF THE WORLD'S GREATEST CULTURE: THE THESEUM

On the west of the old Athenian market-place, conspicuously visible from the Acropolis, in its open space on a low hill, the Theseum is justly regarded as the most perfect architectural relic of ancient Athens; for even the Parthenon, in whose style the temple is designed, through vandalism in the Middle Ages is in a much less complete state. Though commonly known as the Temple of Theseus, archaeologists agree that it should more properly be termed the sanctuary of Hephaestus; it owes its good fortune to its conversion into a church in medieval times.

still exists though always on the very verge of collapse.

From one side of the square runs Piraeus Street, which on its way to that fort passes the vegetable market, the Foundling Hospital and the Dipylon cemetery, one of the cemeteries of ancient Athens that has been excavated. Here the beautifully sculptured grave-stones still stand in situ by the side of a road where they were first erected over two thousand years ago.

Aeolus Street is yet another way out of Concord Square, and it leads directly to the "Tower of the Winds," an elaborate sundial built in the first century B.C. at the north foot of the Acropolis. On the way thither we pass the New Bazaar (modern market), always very busy, but on the eve of Christmas or Easter crowded to the point of suffocation. Next, we pass the church of S. Irene, by the side of which a flower and plant market is held every Sunday morning. Farther on, near

where Aeolus Street crosses Hermes Street, stands another Byzantine church of the tenth century, the Kapnikarea. Not far off is the modern cathedral. Before the Turkish conquest the Parthenon, then converted into a church, was the cathedral of Athens. The new one is an ugly building and appears worse than it is from the strong contrast between it and the little Byzantine church of the Virgin, usually called the Small Metropolis, by its side. This is an architectural gem of the ninth century, and largely built of sculptured slabs. By it lies a marble block declared by an inscription on it to be the stone on which Christ sat at Cana in Galilee when He made the water wine.

On the north side of the Acropolis to the east of the Tower of the Winds lie the oldest streets of modern Athens. These narrow, tortuous, climbing ways have changed little since the days of Byron. Here, early in the day, a goatherd collects the milch goats of the quarter



E. N. A.

WITHIN THE SHATTERED COLONNADE OF THE PARTHENON

Bright and attractive as modern Athens is beneath its smiling Mediterranean sky, its chiefest glory is still the majestic ruin that crowns the Acropolis -- the Parthenon, built over 2,000 years ago. Here we are looking from within towards its eastern end, the portico through which the rising sun flashed in to illumine the gold and ivory statue of Athena by Pheidias in its dark and windowless shrine



E. N. A.

RELIC OF MOSLEM RULE IN THE STREET OF THE COBBLERS

In the quarter of Athens north of the Acropolis and west of the Tower of the Winds is a reminder of the long Turkish domination of Greece—a mosque that is now used as a museum. It was built in the eighteenth century and for its construction a pillar of the Temple of Zeus was removed, an indiscretion for which the "Voivode" of the time was fined by the Ottoman government

and drives them off to pasture to bring them back at sunset. In the morning, itinerant venders of fruit, vegetables and fish go their rounds raucously calling the wares they display in baskets on patient donkeys or on handcarts. Later come hawkers of coarse soap, herbs, printed cottons, trimming, sham jewelry and other objects dear to the Athenian heart. Presently, perhaps, arrives the milkman, who milks his goats on the doorsteps, or a dealer in turkeys driving his wares before him as he goes with a long cane.

To the west of the Tower of the Winds lie the ruins of the market-place of ancient Athens and the two streets which are all that survive of the bazaar of Turkish days, the streets of cobblers and of smiths. The latter is marked by the deafening din of hammers beating at metal. The former has small, low,

dark shops with overhanging eaves which give an Oriental impression. This is heightened by the presence of several curiosity shops outside which a tourist may be seen bargaining for a rug spread in the middle of the road quite regardless of the traffic. The Oriental aspect is increased by the fact that between the two streets stands one of the two surviving mosques of Athens, now converted into a museum of decorative arts.

Farther west, the so-called Theseum—really the Temple of Hephaestus—stands on a low hill. This is the most complete existing Greek Temple and is slightly older than the Parthenon. Thence we turn towards the Acropolis, past the Hill of the Nymphs now crowned by the Observatory, and leaving the bare rock of Arcopagus (Mars' Hill) immediately to the left



A. K. Rittener

TEMPLE OF ERECHTHEUS, A JEWEL IN ATHENS' DIADEM

Once the hallowed shrine of tutelary deities of the wonder city, later a Christian church, then a Turkish harem, the Erechtheum has played many parts in Athenian history; its caryatid-borne portico (on the left), a building of exquisite beauty, stands against the restored south wall. The building is just on the edge of the Acropolis and commands a magnificent view of the north end of Athens.



Autotype Co.

THE PROPYLAEA, ANCIENT CEREMONIAL APPROACH TO THE ACROPOLIS

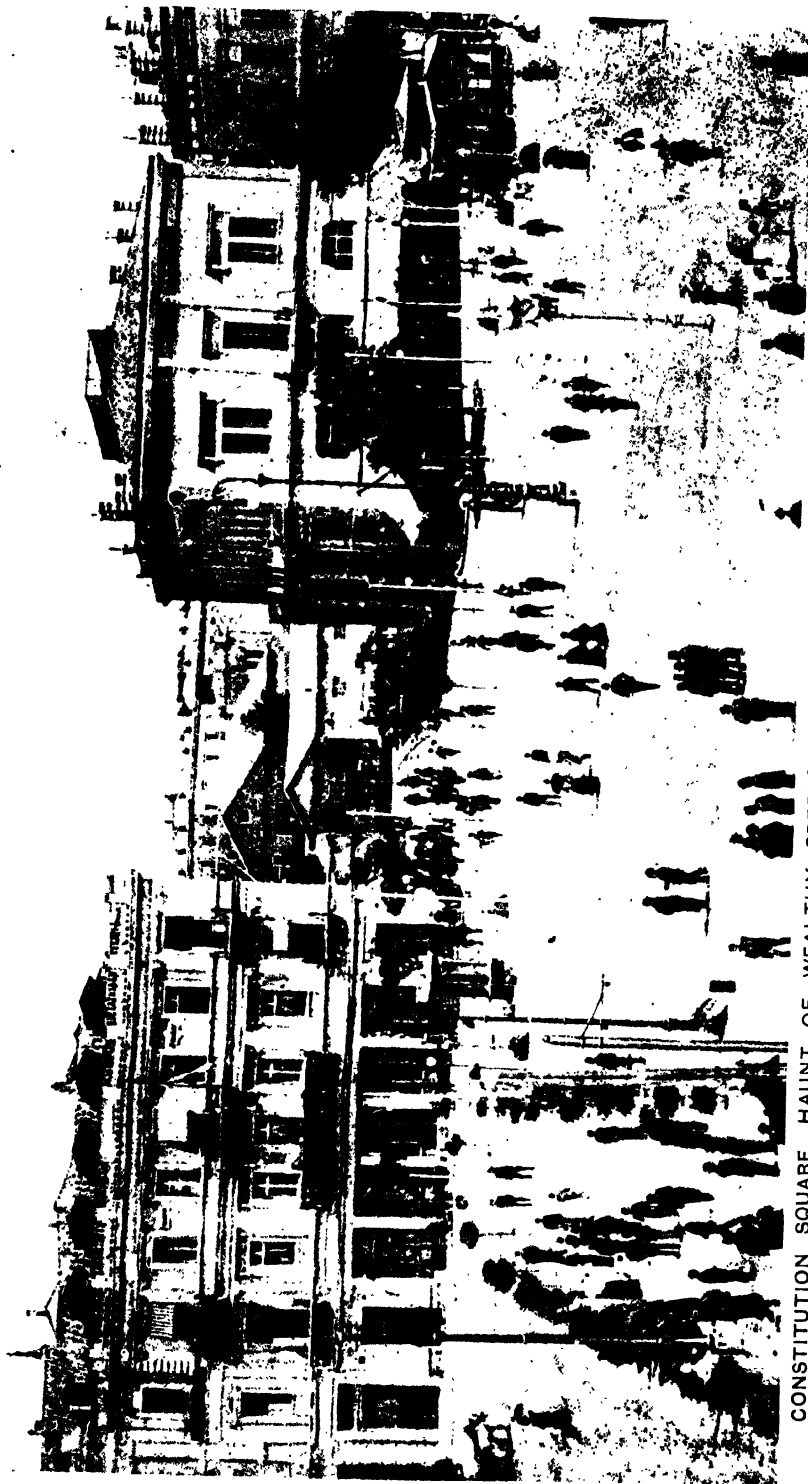
In the days of Pericles, when they were built as a system of stairways, vestibules and corridors giving access to the sacred precincts of the Acropolis, the Propylaea were one of Athens' chief adornments; and even now, having suffered the detrition of the centuries and the vicissitudes of man's barbarism, they still remain, in grand ruin, one of the great glories of the Acropolis.



D. G. Carruthers

WHERE ATHENIANS OF OTHER DAYS CLIMBED IN SOLEMN PROCESSION

Affording a stately approach to the Acropolis of old Athens, the ceremonial system of doorways known as the Propylaea was well worthy of the buildings behind them. In this photograph we have a glimpse through their massed Pentelic marble columns of that little jewel of a temple standing on a buttress of the Acropolis walls—the Ionic fane of Athena Nike, better known as Nike Apteros



CONSTITUTION SQUARE. HAUNT OF WEALTHY GREEKS AND HUB OF THE SOCIAL LIFE OF MODERN ATHENS

Directly in front of the Royal Palace, used as the central office of refugee organization, lies Constitution Square, the centre of Athenian social life, always thronged with sight-seeing and pleasure-seeking crowds. It is adorned with oleanders, orange trees and fine cypresses, and contains the principal hotels in the city, the Ministry of Communications and the famous Zacharatos Café. Here the citizens congregate and they may be seen seated at the little tables, and in front of the café at all hours of day or night, talking or watching the moving pictures in the square



Underwood

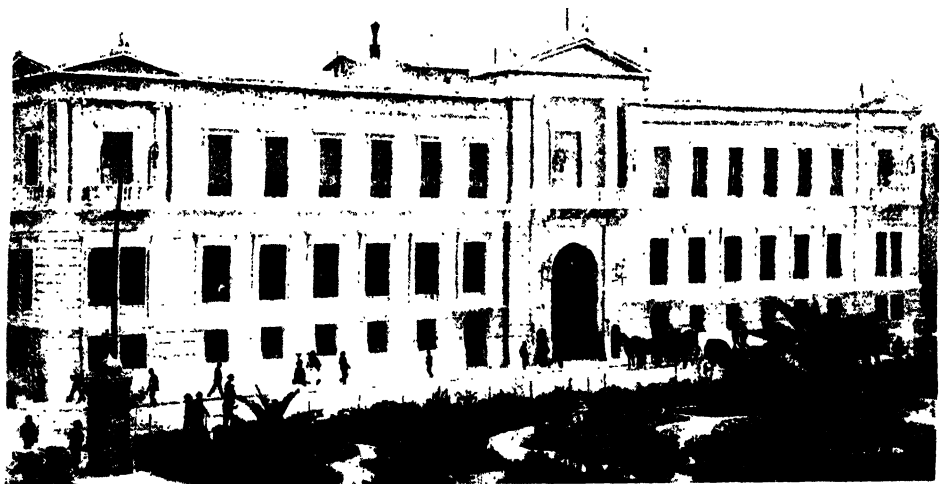
PIRAEUS, PORT OF ATHENS, A CITY OF RETURNING GLORY

Themistocles, the great statesman, first discovered the economic and strategic value of Piræus, seven miles from Athens, and, from his time until Sulla the Roman laid it waste it flourished. Desolate since then till the nineteenth century, its power has revived; the harbour is again famous as a safe anchorage for large vessels and the city as a great trading centre.

reach the entrance. Here, in addition to the Propylæa and the three famous temples, is a small museum containing the sculptures found round them. The painted primitive statues of maidens have no equals for delicacy, symmetry and beauty. On the south side of the Acropolis lie the Odeum or concert hall built by Herodes Atticus, the friend of Hadrian, the sunny terrace and sacred spring of the shrine of Asclepius and the theatre of Dionysus. Thence we can return to Constitution Square past the monument of Lysicrates, crossing Hadrian Street, which in the days of King Otho was the fashionable residential street.

The two squares are also united by University Street, a magnificent broad avenue, the best in Athens. Midway along it lies a group of three noble

marble buildings. There is the Academy of Science built in Ionic style with elegant sculptured decoration in the classical manner. It houses the Byzantine and Numismatic Museums, while the central hall adorned with paintings of the legend of Prometheus is used for large meetings. The University, with a long Ionic portico and statues of Rigas and other heroes of Liberty, is a simpler building. Its students come from all parts of Greece and are keen to learn, but the University, though a vigorous centre of academic life, is but moderately endowed and in need of modern equipment. The students through their leagues and societies maintain an active corporate life. The third building is the National Library, modern and well-constructed, the reading-room of which is always



GREEK NATIONAL BANK IN THE CITY OF GREAT FINANCIERS

Long famed for their astuteness in financial matters, the Greeks have always been leaders in banking systems with international ramifications. The National Bank in Athens, a large modern edifice built in the classical style with Ionic columns, faces the flower-planted space in front of the New Theatre, in that district of the capital in which are also found the legations and the government offices



NEW METROPOLITAN CATHEDRAL, RELIGIOUS CENTRE OF MODERN GREECE

Seventy demolished churches provided the material for the erection in 1855 of the New Metropolitan Cathedral, a building utterly devoid of grace in which four architects have combined to produce great incongruity of style. It is worth while to reflect that the Athenians who worship here are the modern representatives of the people who raised the Parthenon—the finest place of worship ever built



John Bushby

OLD BYZANTIUM IN MODERN ATHENS: THE KAPNIKAREA CHURCH

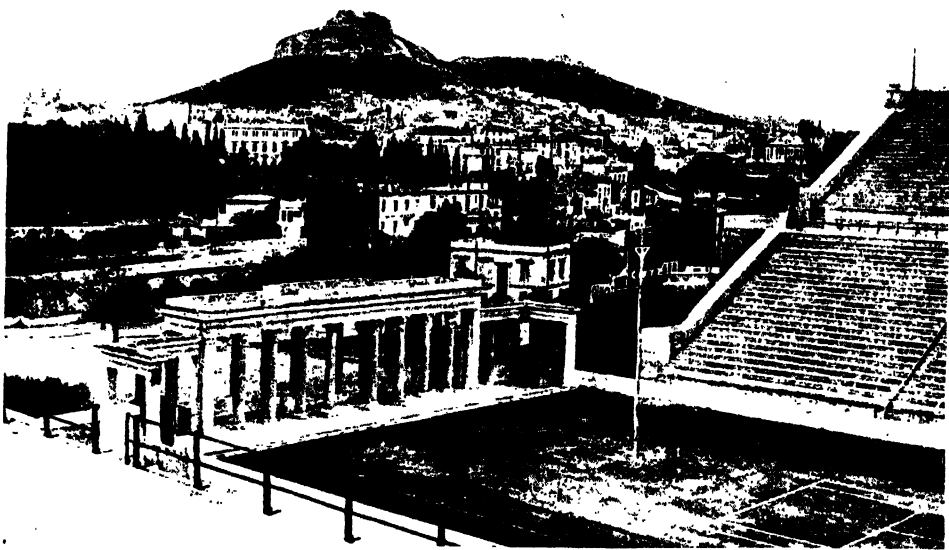
Though attributed by tradition to Eudocia, Athenian wife of the Byzantine Emperor Theodosius II, in the fifth century, the Kapnikarea Church dates from about the ninth century, and the north corridor covered by the lower dome enclosing a separate chapel is a seventeenth century addition. The church stands at the crossing of Hermes and Aeolus streets, the latter leading to the Tower of the Winds



John Bushby

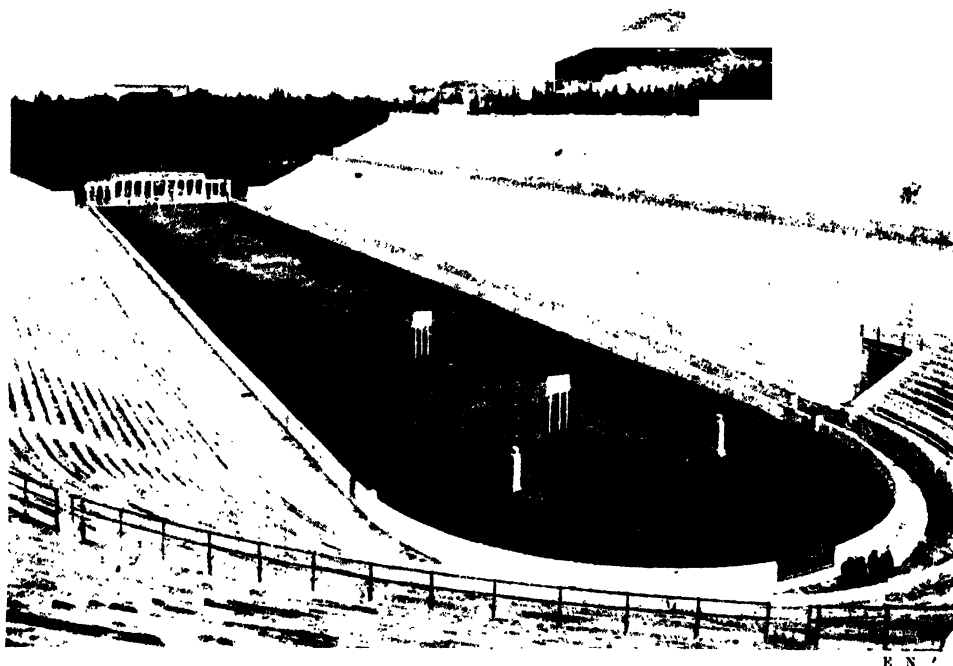
THE "SMALL METROPOLIS," ATHENS' TINY TREASURY OF UNTOLD LORE

Separated by a passage only a few feet wide from the south wall of its large, ungainly neighbour the Metropolitan Cathedral, the thirteenth century Small Metropolis is in many ways one of the most interesting of the Athenian churches. The marble of which it is built, once white, is now mellowed to gold, and its walls contain many ancient sculptures: its external dimensions are but 40 feet by 25



FROM THE STADIUM: THE MODERN CITY AND LYCABETTUS

In the trees above the Corinthian portico of the great Stadium is the palace of the crown prince; to the left of this again lie the Palace Garden and, beyond, Cephisia Street which we must imagine as running through the houses in the centre of the photograph. On the summit of Mount Lycabettus we discern the walls of the Chapel of S. George



ANCIENT MONUMENT REFURBISHED FOR LATTER-DAY ATHLETICS

First built by Herodes Atticus in the natural amphitheatre beside the Illissus and excavated nineteenth century, the Stadium was restored in its original white marble for the Olympic C 1896. Sports and displays are held here nowadays on the same ground as was in olden time the Panathenaic contests. Mount Lycabettus rises high beyond



NATIONAL LIBRARY, A FINE MODERN EDIFICE OF THE GREEK CAPITAL

Proceeding by University Street from Constitution Square we come to a large open space in which are three of the principal buildings of the modern city. These are the Academy of Science (see page 366), which houses two museums, the University and the National Library illustrated above. This last is an imposing pile, well equipped in every respect and possessing a particularly fine reading-room.



GENERAL POST OFFICE, A NOTABLE BUILDING IN MODERN ATHENS

In Lycabettus Street, close to its junction with the long, straight Stadium Street, is found the General Post Office. The building is of modern date and not unpleasing appearance, and is fronted, like the National Bank, by a square planted with flowers and shrubs. Within a few moments' distance is Constitution Square, behind which towers the Royal Palace; close by it is the Parliament House.

well-filled with university students. On the other side of the street is the Arsakion, a girls' high school founded in 1835 and of the highest repute. Towards Concord Square lies a group of hotels and many restaurants of all grades. At the other end of University Street close to Constitution Square are two large cafés, one on either side of the roadway. These, which on bright winter days or summer evenings spread their chairs and tables for a considerable distance along the sidewalk, are known as the Dardanelles and are extremely popular. As a rule cafés are for men only and women rarely go to them. The Dardanelles cafés, however, are patronised by both sexes freely and quite large family parties can be seen enjoying themselves there. At a café coffee is not the only refreshment obtainable — sweet cakes, Turkish delight, ices, tea, mastica (a kind of liqueur), or some similar aperitif and even beer can be readily procured.

From the same point, where University Street reaches Constitution Square, Cephisia Road leads off to the pretty garden suburb of that name which lies at the foot of Pentelicus about eight miles from Athens. On one side of the road are large marble houses and on the other a long road of barracks. Here, too, are the Evangelismos Hospital, the Rizarion Seminary and the old but badly repaired monastery of the Holy Angels (Hagion Asomaton); near by is the new Palace, a handsome building with well laid out gardens that reach nearly as far as the Stadium.

Athens in all its aspects is a very charming city. To the student of art and antiquity it is, of course, a paradise, but even the greatest Philistine cannot fail to enjoy the pleasant life of the modern city and the simple manners and friendly hospitality of the true Athenians, while the unrivalled beauty of its situation surpasses even that of Naples with its famous bay.



ACADEMY OF SCIENCE FACED WITH GLEAMING PENTELIC MARBLE

University Street, one of the finest thoroughfares in Athens, is flanked by noble buildings such as this, the Academy of Science. Classical tradition is strictly adhered to in the portico, which is of the Ionic order and has a group in the pediment representing the birth of Athena. Athena and Apollo surmount the two columns, while the statues on either side of the steps are of Plato and Sophocles.

despite certain differences in rock-structure, it is natural to regard them as having once formed part of the adjacent mainland. The Faroes, together with the lonely crag of Rockall, are less easily accounted for, but in their case so many detailed observations have been made and so much sounding carried out, that we can tell

south-westward a prolongation from which rises the conical islet of Rockall.

Rockall and the Faroes are alike volcanic, but among the lavas of the latter there occur sedimentary beds (including coals). Now in the Inner Hebrides, in Mull, Skye, Staffa, and so forth, no less than in Antrim, in north-east Ireland, there are great masses of



STREET IN THORSHAVN, CAPITAL OF THE FAROE ISLANDS

The Faroe Islands in the North Atlantic belong to Denmark and consist of seventeen inhabited and four uninhabited islands. Thorshavn, the capital, lies on a narrow strip of land on Strömö island, with cliffs on either side which provide safe mooring for ships. Its houses, of simple architectural style, are generally built of wood and thatched with birch-bark, covered with turf.

the complicated tale of their origin with but little fear of error.

We have already spoken of the submarine plateau which extends across the North Atlantic and appears like a continuation of the Dolphin Rise. But the deep waters of the Atlantic basin are separated from those of the Arctic one by a very definite ridge covered with shallow water (under 200 fathoms between the Shetlands and Iceland), which extends from the Continental Shelf on which the British Isles stand, past Iceland to Greenland. This ridge bears on its surface the Faroes as well as Iceland, and sends out

basalt, intermingled with sedimentary beds containing fossil plant-leaves. With the help of these fossils the basalts can be recognized as of Tertiary age, and there is evidence that the rocks of the Faroes belong to the same period. More than this, blocks of lava have been dredged up from the sea-floor along the line of the ridge from Scotland to Greenland, which leads to the conclusion that there were once vast plains of lava in this region, of which the Faroe Islands and Rockall are but the wave-worn and denuded fragments.

We can go even further than this. There is much geological evidence to



EDINBURGH, THE SOLE TOWNSHIP OF REMOTE TRISTAN DA CUNHA

Situated about 2,000 miles west of the Cape of Good Hope and 4,000 miles north-east of Cape Horn, the three volcanic islands of Tristan da Cunha are a very lonely and poverty-stricken group. Tristan, the only inhabited one of the three, has a population of about 100 settlers, all established at Edinburgh, a tiny township on a plateau under the shadow of the central volcanic cone

show that, down nearly to the close of the era which geologists call Secondary, a great continental mass existed in the North Atlantic, the broken edge of this old continent still existing in the north-west Highlands of Scotland. During the Tertiary era this great northern continent sank down beneath the waves. As it broke into fragments and began to founder, volcanic eruptions occurred on its surface on a great scale. Lavas apparently welled out of the earth along the lines of long fissures, forming those vast plateaux of which we have already spoken, remnants of which persist alike in western Scotland and north-eastern Ireland on the one hand, and in the Faroes and Rockall on the other. It thus is permissible to declare quite definitely that these islands are testimonies to the former existence of a land-mass, most of which has sunk beneath the sea.

So far we are on fairly secure ground. With more hesitation we can offer a possible explanation of the volcanic islands of the Atlantic Ocean proper, remembering, however, that here we are largely in the realm of speculation, with few definite facts to go upon.

There is ground for supposing that the whole Atlantic Ocean is of relatively

recent origin, and that the northern continental mass connecting Europe and North America, of which we have just spoken, had its southern limit somewhere along a line from Portugal to Florida and thus included the site of the existing Azores. A similar continental mass appears to have stretched across the South Atlantic, linking Africa and South America. The two are believed to have been separated by a transverse ocean, called the Tethys by the geologist Suess. The theory which has found general acceptance is that the existing Atlantic was formed by an enlargement of the Tethys at the expense of the pre-existing northern and southern land-masses.

In speaking of the conditions in the extreme north-east of the Atlantic, we have shown that the collapse of the land-surface was certainly accompanied by great volcanic eruptions. We should thus expect that if there was great submergence of land-areas within the Atlantic basin proper, volcanic outbursts would similarly take place, but would attain even greater proportions. We have already shown that volcanic islands are widespread in that ocean, from the Azores in the north to Gough island, and even farther

to Bouvet island in the south, no less than from St. Helena to Fernando de Noronha and Trinidad, and from Madeira and the Canaries to the Antilles in the east-to-west direction. The suggestion which arises then is that in the Atlantic as a whole there occurred, on a far greater scale, the same phenomena which we know to have taken place between Greenland and the British Isles in the north.

Thus the great S-shaped rise of the Atlantic perhaps represents a vanished belt of land which persisted for a time after submergence had taken place on either side of it, and the volcanic islands may be the remains of the lavas poured out during the great fissure eruptions which presumably took place as the land-masses sank beneath the waves.

Much of this, it must be repeated, is purely speculative. If, however, it contains any germ of truth we are at once confronted with the question--has the Atlantic myth any sound basis? The answer must be, geologically, yes; but historically, no! We have no reason to think that man existed in Tertiary time, and even if the existence of man-like forms in that era were proved, it is certain that such early forms could not have had the intelligence to give a

coherent account of changes which must have taken a very prolonged period of time to accomplish.

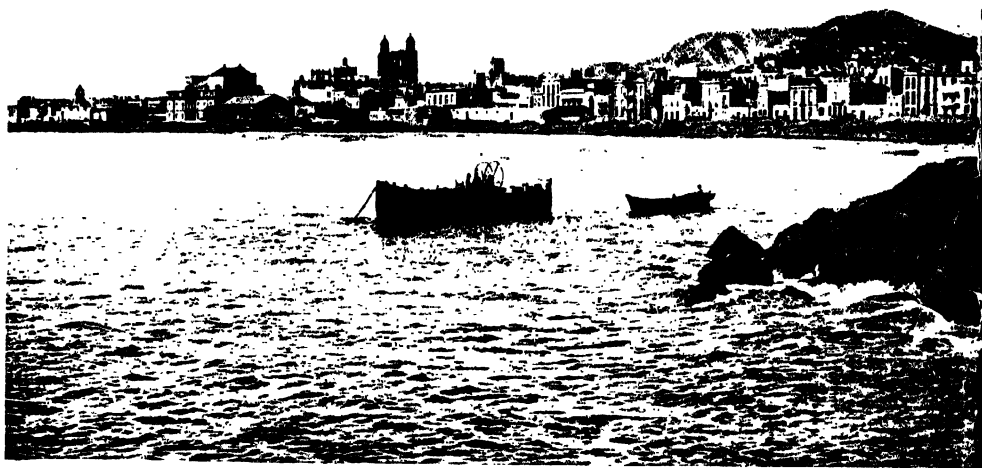
It has been suggested that the Atlantic myth arose from the observation of some minor change in the distribution of land and water, possibly associated with an earthquake, or a great volcanic eruption, in one of the Atlantic archipelagoes. But all this is pure speculation, and though the Canary Islands are the most African of the groups, and their most easterly members are separated from the mainland by less than sixty miles of sea water, no definite evidence of a former attachment to Africa has as yet been brought forward, though an African origin is intrinsically probable enough.

Summing up, then, with the exception of the Falklands which are presumably a separated part of the South American continent, and of the Bermudas which are built of coral, all the islands discussed in this article are of predominantly volcanic origin and show striking examples of the types of scenery associated with the weathering of the products of eruptions. Their position and the depth conditions in the surrounding ocean lead to the conclusion that they originated as the result of the



DARING SEAMEN OF A LONELY OUTPOST OF THE BRITISH EMPIRE

Cliffs from one to two thousand feet in height rise sheer from the sea all round the island of Tristan da Cunha except on the north-west where a narrow gap affords the only landing-place, leading up to the single settlement, Edinburgh, seen in the opposite page. The islanders are born sailors and will put to sea in almost any weather in small boats made by themselves



PANORAMA OF LAS PALMAS, CATHEDRAL CITY AND SEAPORT -

Viewed from the sea Las Palmas presents a very picturesque appearance. Although some of its buildings date back to the sixteenth century, it is a modern city, clean, and well-ordered in most parts, with a supply of pure water brought by an aqueduct from the mountains of the interior



PRAIA, CAPITAL OF SANTIAGO ISLAND AND OF THE CAPE VERDE GROUP

São Thiago, or Santiago, is the most southerly island of the Cape Verde archipelago, which belongs to Portugal and consists of fourteen mountainous and volcanic islands in the Atlantic. It has an area of 358 square miles and is the largest and most populous of the group. Praia, on the south-east coast, is the capital and has a very fine harbour with safe anchorage for vessels and a considerable trade



—CAPITAL OF THE ISLAND OF GRAND CANARY, CANARY ARCHIPELAGO

Notwithstanding its situation on the sea front, Las Palmas possesses only an open roadstead without harbour protection, and is connected with its port La Luz by a railway four miles long. Puerto de la Luz is strongly fortified and has an excellent harbour, furnishing secure shelter in all weathers



Photochrom

CAVE VILLAGE ON A TERRACED HILLSIDE OF GRAND CANARY ISLAND

As on the other islands of this Spanish archipelago, the housing of the labouring class on Grand Canary is primitive in the extreme, and the hill slopes, cut into terraces, abound in lava caves which afford shelter, where cottages are not available, to many poor islanders. Especially noted as cave-dwellers is a small community of potters, regarded almost as outcasts among their neighbours



R. M. S. P. Co

VIEW OF THE RUGGED COUNTRYSIDE OF GRAND CANARY, SHOWING THE ROAD FROM LAS PALMAS TO ATALAYA
The island of Grand Canary, or Gran Canaria, is almost circular in shape; its greatest length is $34\frac{1}{2}$ miles, its width $29\frac{1}{2}$ miles, and its area 631 square miles. The interior is a tableland, with long sloping sides broken by winding ravines radiating to the shore; the highest peaks being 6,401, 6,100 and 6,066 feet. This island is said to be the most fertile of all the Canary archipelago; it produces excellent crops and owes much of its prosperity to the banana; in respect of irrigation it is much better watered than Tenerife. There are large tracts covered with the native pine and many mineral springs are to be found

great Tertiary changes in the distribution of land and water, associated with the formation of the Atlantic Ocean. But despite this broad similarity of origin, the various islands differ very markedly in detail.

We may conveniently begin our detailed survey of the islands with the

therefore that the Azores, Madeira and the Canary Islands would have a climate corresponding to that of the Mediterranean region, modified by latitude and the surrounding ocean, while the Bermudas, since they lie much nearer the American coast than the African one, would partake of the climate of the former



H. M. S. P. Co.

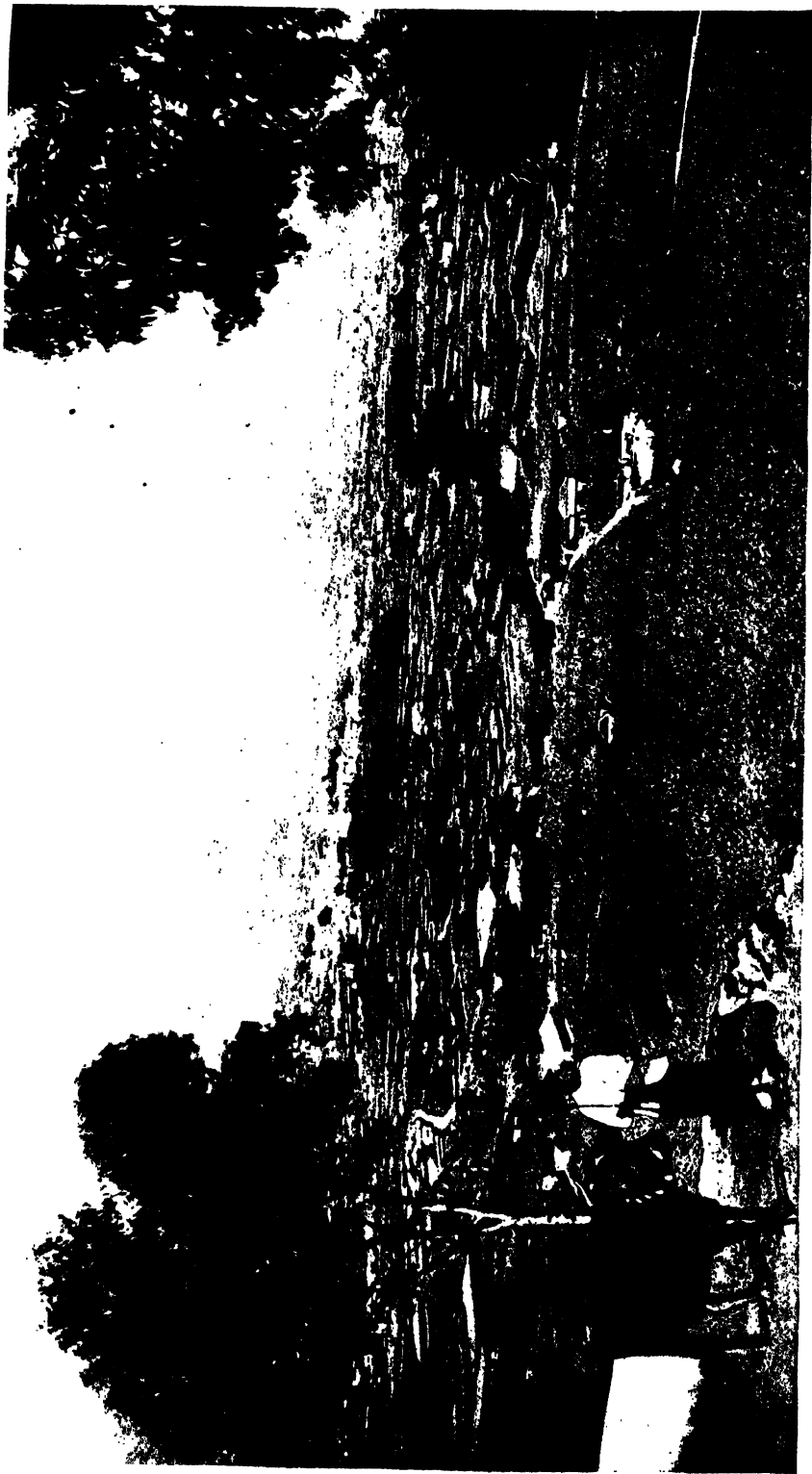
PLEASANT PALM-CROWNED CORNER OF LAS PALMAS CITY

Las Palmas derived its name from the palms which adorned the fertile valley it occupies, and of which many beautiful specimens are still to be seen. It has electric lighting and tramway services and owes much of its modern development to foreign merchants. Among the principal buildings are the Cathedral—one of its twin towers is seen above in the background—a theatre and museum

subtropical groups of the North Atlantic, which include the Azores, Madeira, the Canary Islands and the Bermudas. The position of all these groups allows us to make some general observation on the climatic conditions which have a considerable bearing on the products and economics in each case. The Azores have approximately the same latitude as Lisbon, while the Canary Islands lie somewhat south of that of Cairo, the Bermudas and Madeira having an intermediate position between these two latitudes. In a broad sense, then, all four groups lie within the belt of transition between the trade winds and the westerlies, tending to be exposed to the north-east trades in summer and the westerlies in winter. We should expect

coast, modified by the oceanic position. A few figures will show how far this expectation is fulfilled.

Funchal in Madeira is in about lat. 32° N., Las Palmas in Grand Canary being 4° further south. At Funchal February is the coolest month, with an average temperature of about 60° F.; August is the hottest with an average of about 73° . The temperatures at Las Palmas are slightly higher, but show the same mild winter and moderate range. In both cases the summers are dry, the very moderate rainfall coming in winter; but there is a somewhat striking difference in the amount of precipitation, which is about 27 in. per annum in Madeira and only half, or less, in the Canaries. This is due



VIEW OF THE FERTILE OROTAVA VALE, TENERIFFE, SHOWING THE FAMOUS PICO DE TEYDE

The beautiful valley of Orotava, lying near the north coast of Tenerife, Canary Islands, like many another in this Spanish possession, abounds in rich vegetation. In the distance rises El Pico de Teyde, the loftiest summit in the Canary group, which is 12,100 feet high with a crater 300 feet in diameter and 70 feet deep. Two-thirds of the surface of the mountain are fertile and the peak, snow-clad in winter, may be seen more than a hundred miles away and forms a valuable landmark for navigators. By virtue of possession of this celebrated peak, Tenerife is the meteorological centre of that part of the world



CARPETS OF NATURAL FLOWERS SPREAD ON THE COBBLES OF OROTAVA

The Canary Islander takes much pride in his rich native flora and flowers of innumerable varieties are brought to a high standard of perfection. Many skillful gardeners are to be found in Tenerife, as is well demonstrated in this striking photograph of a street in Orotava covered with rich floral carpets of varied design, composed of living, multi-hued flowers

partly to the latitude, and partly to the fact that the latter islands are much more definitely affected by African conditions. In both cases the atmosphere is clear and the climate healthy, that of Madeira, as is well known, being particularly suited to invalids.

The temperature conditions do not differ greatly in the Azores, but the total annual rainfall is greater, about 34 in.; rain occurs at all seasons, though mostly in winter, and the atmosphere, especially during the wet season, has a dampness and tendency to fog which make the islands less suitable as health resorts than either Madeira or the Canaries. The Bermudas again have a fairly heavy rainfall, about 60 in., distributed throughout the year, but heaviest in autumn and least in spring. The summer temperatures are higher than in Madeira, but the winters are mild and pleasant.

Thus all these subtropical islands are well fitted to serve as winter and spring

health resorts for the inhabitants of temperate latitudes, while at the same time their summer temperatures are high enough for them to yield those subtropical and tropical products, especially fruits, for which the demand, alike in Europe and the United States of America, is almost insatiable.

The Azores and the Madeira archipelago are attached politically to Portugal. The former consist of ten islands, arranged in three groups, the largest being St. Michaels (S. Miguel) with Ponta Delgada the chief town. The most conspicuous rocks are lavas and volcanic ash, and the highest of the numerous volcanic peaks is Gran Pico, in Pico, which rises to over 7,613 feet. Very remarkable are the great craters, with parasitic cones and lakes, to which the name of "caldeira" is given in the islands. The finest example is the "Lake of the Seven Cities," in St. Michaels, a great hollow containing four lake basins. Though many of the



AVENIDA 25 DE JULIO, PRINCIPAL STREET IN SANTA CRUZ, TENERIFFE, CAPITAL OF THE CANARIES

Santa Cruz, the capital of Tenerife and also of the Canary Islands, has considerable importance as a seaport, coaling station and commercial centre, and its harbour, guarded by the forts of the port, is well protected from the sea by a modern mole. The town occupies a small plain, surrounded by volcanic rocks, with little vegetation in the vicinity, and its water-supply from the interior highlands is furnished by a long aqueduct. The attractive and well-ordered streets are lined with houses built in the Spanish style with flat roofs and central patios, and there are several imposing public buildings

volcanic rocks date from the Tertiary era, minor eruptions still occur, some being submarine.

Owing to the fairly heavy rainfall, vegetation is luxuriant and a great variety of economic plants can be grown. But the density of population is much less than in Madeira (about 263 to the square mile), and the division of the land among large proprietors appears to check production. Oranges, pine-apples and the temperate cereals are all grown; wine is made, but the great resource of the island consists in the herds of cattle, butter and cheese being produced. Such a mingling of the products of various climatic zones is very characteristic of oceanic islands, and in the case of these subtropical groups one has to remember the bold relief of all, for the climate is naturally much modified by elevation.

Flores, the most westerly of the islands, is an important calling-station for ships, as is also Fayal, and the town of Ponta Delgada on St. Michaels.

The Madeira archipelago consists of the island of that name, the adjacent island of Porto Santo, and some uninhabited islets. In Madeira Pico Ruivo, the "red peak," rises to over 6,077 feet, and the island is everywhere mountainous, with deep ravines and old lava-flows jutting out seaward, and forming sheltered havens for fishing boats. Though it was formerly forested, as in the Canaries the original woods have largely disappeared save on the upper slopes, where chestnuts and Canary laurel still occur abundantly. The indigenous flora has been

supplemented by numbers of introduced shrubs and trees which give an aspect of great luxuriance. An excellent wine is made, but a vine disease led to an attempt to introduce sugar-cane, for which the climate proved too dry. Cereals are largely grown. Funchal, the capital, is an important coaling station, and many tourists visit the island. The population is dense, about 572 to the square mile, and a number of minor, largely domestic, industries are carried on, including the manufacture of articles in cane, such as baskets, chairs, etc., and in inlaid wood, as well as of embroideries and straw hats. In its sunshine, beautiful flowering trees, and in the poverty and low standard of life of its numerous inhabitants



R. M. S. P. Co.

MOST NOTED BUILDING OF LAS PALMAS

This cathedral, a lofty massive structure dating from the sixteenth century, is the dominating architectural feature of Las Palmas, situated on the north-east coast of the island of Grand Canary



John Bushby

OLD CAMPANILE OF TENERIFFE'S CAPITAL

The term campanile was originally applied to a bell tower in Italy, and came into use there with the introduction of bells about the beginning of the ninth century. This lofty belfry dominates a narrow street of Santa Cruz in Teneriffe

Madeira recalls some of the islands of the Mediterranean Sea.

The Canary group, which belongs to Spain, contains seven chief islands, arranged in an eastern and a western group. The latter includes Teneriffe (capital Santa Cruz) and Grand Canary (capital Las Palmas, with the port of La Luz, an important coaling station). The small island of Ferro (Hierro) is interesting because after the discovery of America it was regarded as marking the dividing line between the eastern and western worlds. The meridian of Ferro, assumed (not quite accurately) to be 20° west of Paris, was for long used as the zero of longitude, and still appears on some maps instead of that of Greenwich. The eastern islands of

Lanzarote and Fuerteventura are almost Saharan in character. Thus the camel is the beast of burden, instead of the mule; few trees occur, but include desert forms like euphorbias and tamarisks; dates, figs and pomegranates are grown but there is little cultivation. Rainfall is greater and vegetation more luxuriant to the west, and the well-known Peak of Teneriffe, El Pico de Teyde, rises to 12,100 feet, so that climate and vegetation naturally vary with altitude. Even in these western islands, however, water is difficult to obtain and the way in which the introduced American prickly pear (*opuntia*) has run wild illustrates the prevailing aridity.

The plants lodge the cochineal insect, and though the cochineal trade has suffered very severely from the competition of aniline dyes,

the fact that the host plant will grow without care in the most barren soil, and that the insects are easily collected, is sufficient to account for its persistence on a small scale. Many kinds of fruits, including oranges and bananas, are grown, together with cereals, tomatoes and potatoes; wine is made, and goats are reared. The barren nature of much of the surface is reflected in the sparse population which reaches only 169 per square mile.

The Bermudas are British, and their position gives them much strategic importance despite their very small size. Thus the intricate channels which lead into the central lagoon are fortified; there is a garrison and the group forms a naval station for the North American

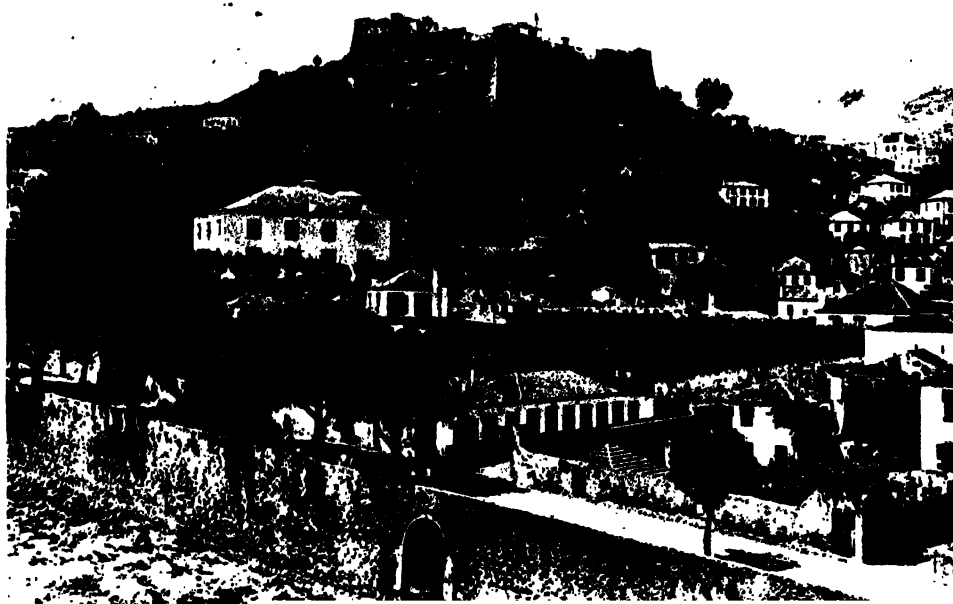


ATLANTIC ISLANDS. Towering to a height of 7,613 feet, the Gran Pico, in Pico, Azores, dominates a landscape lovely with luxuriant vegetation



ATLANTIC ISLANDS. Viewed from the sea; Funchal, capital of Madeira, is enchanting. Glistening white buildings set in tropical verdure line the shore and stud the slopes of the surrounding cloud-capped mountains

E. M. S. P. Co.



R. M. S. P. Co.

From the seventeenth century walls of Pico Fort exquisite views are obtained over the terraced town and azure bay of Funchal, in Madeira

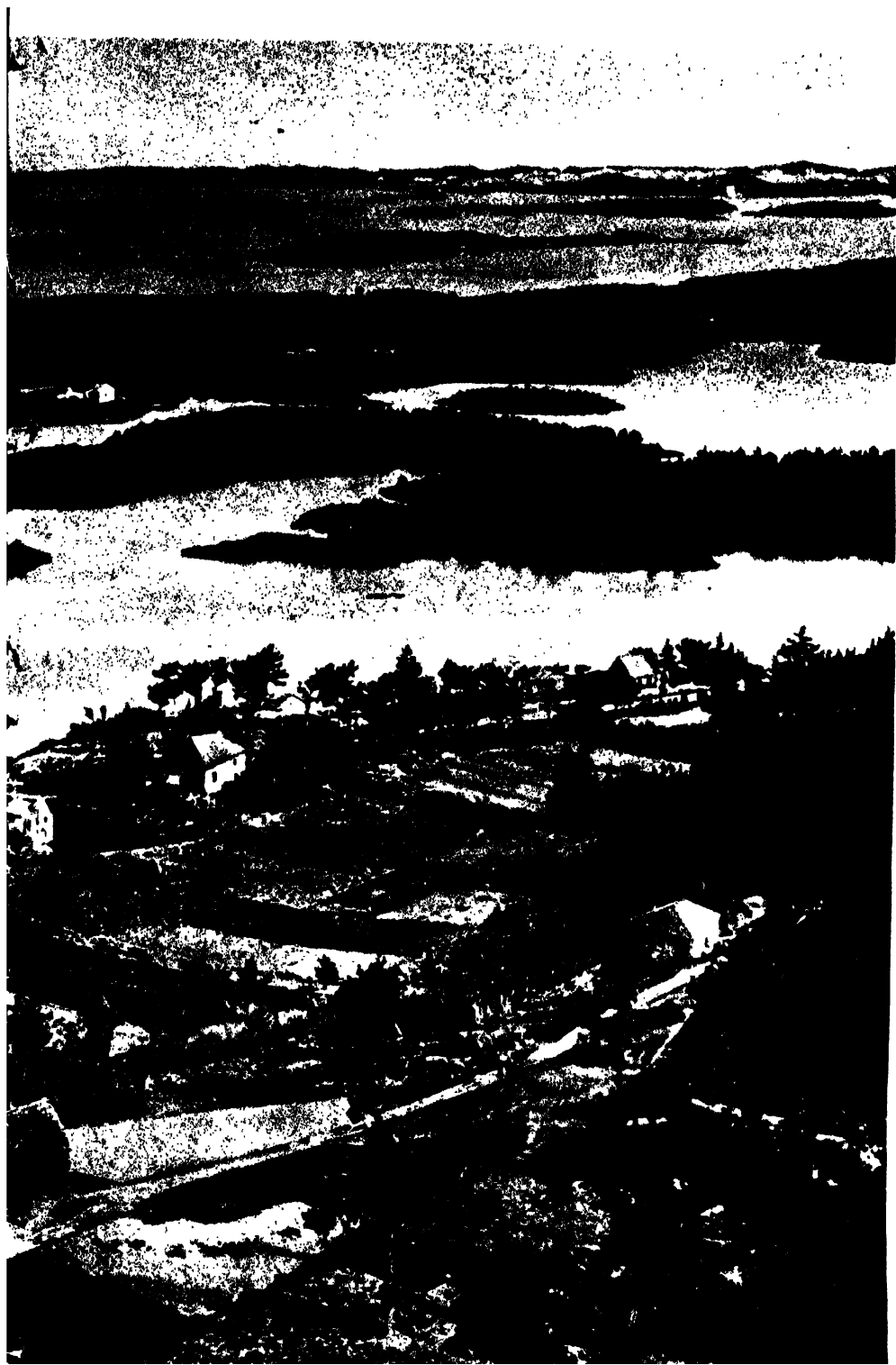


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ATLANTIC ISLANDS. One of Madeira's beauty spots is Camara de Lobos, a fishing town at the foot of a sheer cliff five miles west of Funchal



ATLANTIC ISLANDS. *Nature has carried what may be termed seascape gardening to perfection in the coral islets that fringe the Bermudas*



Perpetual verdure clothes the ridges and atolls, which are separated by winding waterways making up a vista of incomparable beauty



ATLANTIC ISLANDS. Jagged volcano peaks slabbing the sky, their lower slopes terraced and rich with vineyards and fruitful gardens, form the background to Santa Cruz, capital of Tenerife, as seen from the sea



ATLANTIC ISLANDS. Drought is the curse of the Cape Verde archipelago, all the islands of which are marked by the aridity shown in this photograph of Porto Grande, St. Vincent, with Monte Verde rising behind



ATLANTIC ISLANDS. *Capital of lonely St. Helena, Jamestown stagnates now that it is no longer a port of call for all eastward-bound vessels*



PICTURESQUE HOMESTEAD AMONG MADEIRA'S PINE-CLAD PEAKS

Besides its advantageous situation at the crossing of the great transatlantic routes, Madeira owes much of its prosperity to its climate, which is mild and salubrious. The vegetation is rich and varied, and a strange mixture of genera is to be found among the trees. Much of the indigenous forest has been destroyed, but plants and coniferous trees of foreign origin have spread rapidly

squadron. There are no streams and the water supply presents a difficulty, the inhabitants being mostly dependent upon the fairly copious rainfall, rain-water being stored in cisterns. Market-gardening, or what the Americans call "truck-farming," is the main occupation, early vegetables and flowers being grown, especially for the New York market, which is easily reached.

Though potatoes, onions and lilies form the chief products, the climate permits of the cultivation of a great variety of plants, including that which yields arrowroot. Two-thirds of the inhabitants are negroes, a fact which may be associated with the warm, moist climate, due largely to the influence of the Gulf Stream. This current also accounts for corals growing farther north here than anywhere else. In winter and spring the Bermudas are much frequented by American tourists, but owing to the

damp heat the summers are trying. The tropical islands include the Cape Verde Islands in the North Atlantic which belong to Portugal, and Ascension and St. Helena in the south, the latter, with Tristan da Cunha, being British.

The Cape Verde archipelago lies between 12° and 15° north lat., some 400 miles from the coast of Africa. It consists of fourteen islands and islets, of which the most important is São Thiago (Santiago), with Praia, the capital. São Vicente (St. Vincent), with the fine harbour of Porto Grande, is an important coaling station. The island of Fogo contains a volcanic peak rising to nearly 10,000 feet, which was active during the nineteenth century, and the island of Brava also has active craters. The climate is hot and is regarded as unhealthy. There is a small annual but a marked daily range of temperature, and the rainy season,



MADEIRA WINE ON THE ROAD FROM VINEYARD TO STOREHOUSE

On such primitive sledges many a cumbersome hog-head of Madeira grape-juice is drawn for miles over the rough roads by oxen. Madeira has long been noted for the famous wine which takes its name from the island, and the culture of the vine, introduced from Crete, dates from the fifteenth century. The wine in most common use is Verdelho, made from the white grapes of that name.



PROLIFIC SPECIES OF THE FIGUS FAMILY ON TENERIFFE ISLAND

The tropics and the temperate zone are equally well represented in the Canary archipelago, and the varied flora comprises the date and banana palm, sugar-cane, coffee and orange tree, the agave and cactus, the laurel pine, heather, broom and lichen. The fig, though a speciality of Hierro, grows profusely on the other islands. Note the clusters of edible fruit springing from the bare trunk.



CUSTOMARY CARRIAGE AND PAIR OF MADEIRA'S CAPITAL

The streets in Funchal, which are paved with cobblestones, have been much improved in recent times, and are generally maintained in good order. They are steep and narrow and are lighted by electricity. As there is little or no wheeled traffic, bullock carts on runners, sledges and portable hammocks form the usual means of transit. Throughout the island oxen are used as draught animals.



ARABLE LAND ARTIFICIALLY FORMED ON THE MOUNTAIN SIDE

The soil of Madeira is fertile, but suffers from deficiency of water, and its cultivation entails an incredible expenditure of time and labour. It is naturally most productive on the lower levels, where it is chiefly in the hands of large proprietors who employ hired labour. Smallholdings on the higher ground usually comprise artificially formed terrace land supported by stone walls.



COMMERCIAL CORNER OF A STREET IN FUNCHAL, CAPITAL AND CHIEF SEAPORT OF MADEIRA
 Funchal stands on Funchal Bay, and owing to its salubrious climate has long been a popular winter health resort. The encircling hills, on which the principal residents have their country houses, make a very beautiful setting for the town, which retains many quaint old-world institutions. Funchal has several interesting public buildings, and there is a large trade in wine and coal. Nevertheless, as a port it is still imperfect, being little more than an open roadstead about five miles wide, with a central stone pier for boats and launches, as the sea is too deep here to allow of the construction of a good harbour

R. M. S. P. Co.



TREADING THE GRAIN AMID THE PICTURESQUE SCENERY OF MADEIRA

The north part of the island of Madeira is extremely fertile, and while primitive land implements are used, all cereals and most European vegetables are successfully grown, and fruits of many varieties are cultivated abundantly. All agriculture depends very largely on irrigation, and as little or no rain falls during the summer months, reservoirs are constructed on the higher elevations

which lasts from August to October, is especially trying. The total rainfall is small and highly variable from year to year, so that the islands suffer much from drought. The population is very mixed, including many negroes and half-breeds. A great number of economic plants can be cultivated, including sugarcane, the vine, the castor-oil plant, tobacco, maize and rice, but production is not great. The climate makes it impossible to develop the islands as a health resort and their chief economic importance is due to their position on ocean routes.

Ascension, which lies in lat. 8° south, and St. Helena in 16° south, are both definitely tropical so far as latitude is concerned, but their oceanic position and small size give them a modified tropical climate, and so far as their somewhat limited products are concerned

they are warm temperate rather than tropical. Until November, 1922, Ascension was under the British Admiralty, had a small garrison and was chiefly used as a sanatorium for the crews of men-of-war who had suffered in health during service in tropical latitudes. In that month it was annexed to St. Helena, and transferred to the Colonial Office. The garrison was later withdrawn.

The island consists entirely of extinct volcanic cones, rising in Green Mountain to a height of nearly 3,000 feet. It is continuously exposed to the south-east trade winds, which accounts for its healthy character, though temperatures are high. There is little rainfall, especially on the lower grounds, and not much cultivation can be carried on over the parched surface. Small amounts of vegetables were grown for

the use of the garrison, but the chief product is turtles, the animals swarming in the surrounding seas.

St. Helena lies about 800 miles south-east of Ascension and has a similar but much cooler and cloudier climate, again remarkably healthy for a tropical island. It consists of a much denuded, extinct volcanic cone, rising in Diana's Peak to a height of

2,700 feet and bounded by precipitous cliffs. Springs are abundant, and the surface was originally forested. But ruthless cutting, combined with the destruction wrought by (introduced) goats has led both to the disappearance of most of the indigenous vegetation and to great soil-wastage from the deforested slopes. The island was at one time of great importance as a



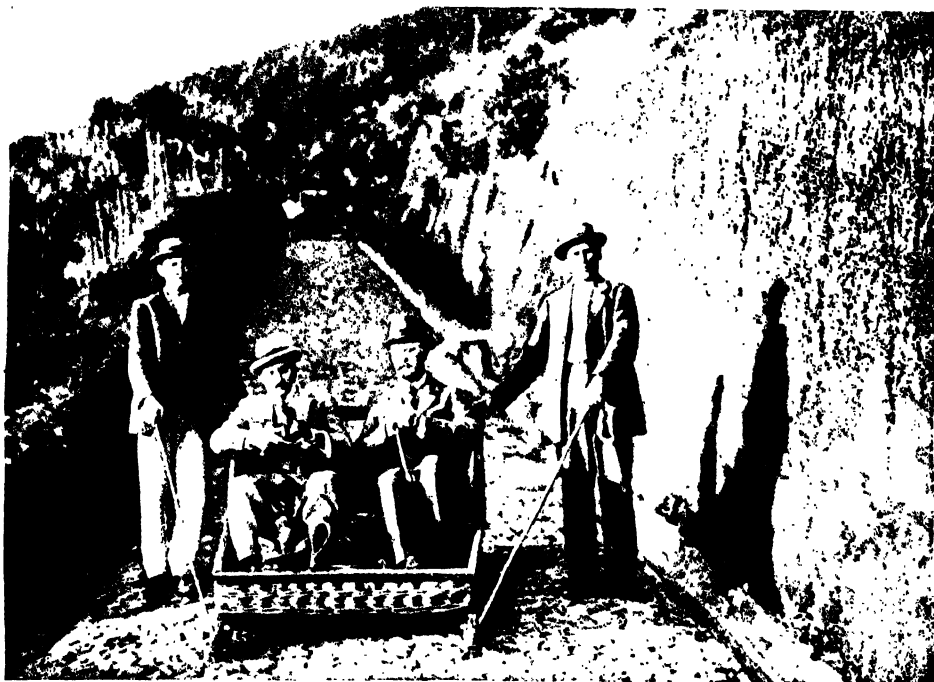
PRECIPITOUS CLIFFS OF MADEIRA'S ROUGH CENTRAL RANGE

The Portuguese island of Madeira, a place of surpassing beauty, lies off the coast of north-west Africa. The central part is a large plateau or amphitheatre, the lateral ridges of which, forming deep labyrinthine gorges, rise to lofty fantastic peaks. The white buildings on the lower hill to the right impart some faint idea of the immensity of the heights overshadowing them.



MADEIRA "CARRO" ON A COBBLED CORDUROY ROAD

The rough highland roads of Madeira can only be negotiated on foot or, as seen above, by the "carro," a quaint kind of covered conveyance moving on runners and drawn by oxen and mules, the latter animals being agile and singularly sagacious in traversing dangerous ground. The drivers carry lubricating rags with which they occasionally grease the runners of the sledges.



METHOD OF DESCENT FROM MADEIRA'S FAMOUS RIBEIRO FRIO

The island of Madeira still loyally clings to old-fashioned methods of transport, and in 1917 possessed only two macadamised roads on which motors could travel. The descent of the road from the Ribeiro Frio, or "Cold River," is made by sledge directed by native guides. Here two Portuguese are seen using ropes to steer the "carro" round the corners. The men return with the vehicle on their backs



CHIEF PORT OF THE LARGEST ISLAND OF THE AZORES GROUP

Ponta Delgada is the chief town of St. Michaels, or San Miguel, island, the largest and most important of the Azores. Its secure harbour, protected by a breakwater some 3,000 feet in length, possesses accommodation for several large ocean-going steamers and many small vessels. The town has tobacco and sugar factories and a brewery, and manufactures cotton fabrics, pottery and straw hats



SHIPS IN ANCHORAGE IN THE SHELTERED WATERS OF ANGRA BAY

Angra, in the bay of the same name, is the capital of Terceira, the most central island of the Azores. It is a fortified seaport, with three moles and a sheltered harbour, being exposed to gales only from the south-west. The island, which is fertile, has two large bays, Angra Bay and Praia Bay



DISTANT VIEW OF THE VOLCANIC SUMMIT OF PICO ISLAND

The Azores belong to and form an integral part of Portugal, from which they are about 830 miles distant to the west. Pico is separated from Fayal island by a strait less than four miles wide, has an area of 176 square miles, and takes its name from the volcano, Gran Pico, 7,613 feet high, the culminating point of the Azores rising in the south-west of the island



FAMOUS HOT SULPHUR SPRINGS AT THE THERMAL STATION OF FURNAS

The islands of the Azores group contain many hot mineral springs, including those of Furnas, in St. Michaels, which have proved beneficial to patients suffering from rheumatism or from skin and throat diseases. The dry climate of Santa Maria has health-giving qualities. Pico is especially suitable for consumptives, while Fayal, though damper than Pico, is free from complaints that have a climatic origin



ON THE ROAD TO ST. MICHAELS' FAMED LAKE OF THE SEVEN CITIES

Largest of the Azores, St. Michaels is representative of all the widely separated islands of that archipelago in respect alike of its volcanic character, its generally uneven, ravine-scarred surface and the nature of its rich flora. Its most notable feature is the caldeira, or cauldron, called the Lake of Seven Cities, a great crater near the west coast containing four lake basins.



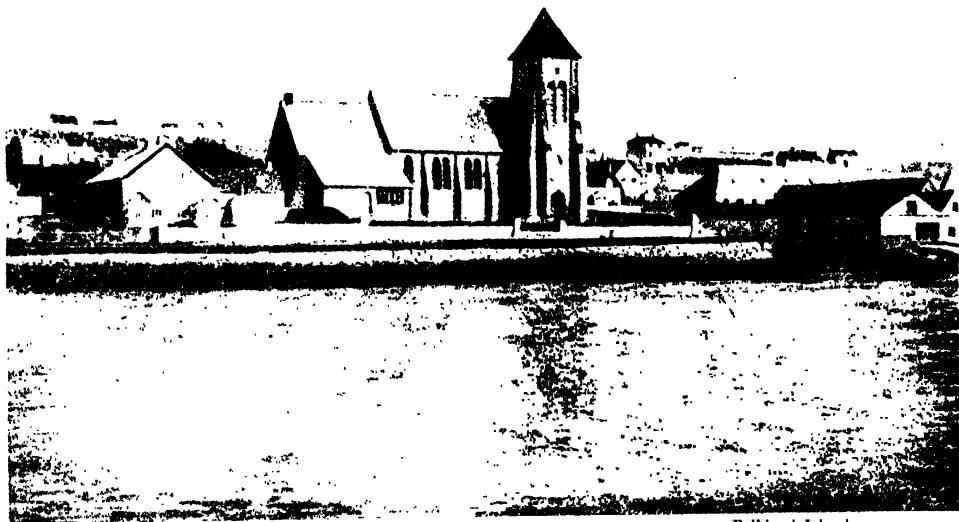
BIRD LIFE ON THE SANDY SHORES OF ASCENSION ISLAND

The small island of Ascension, with an area of 34 square miles, is a British possession in the South Atlantic Ocean. Formerly under the control of the British Admiralty, it was transferred to the Colonial Office in November, 1922. Feathered game abounds, and the coasts are frequented by numberless seabirds, known as "wideawakes," whose eggs are collected from the dunes and rocks for food.



COCOA CULTIVATION ON THE VOLCANIC ISLAND OF ST. THOMAS

The volcanic island of St. Thomas, or in its native form San Thomé, is a Portuguese possession, lying some 170 miles off the west coast of Africa in the Gulf of Guinea. It possesses a luxuriant vegetation, and the chief products are cocoa, coffee and rubber. Here on a drying floor the cocoa seeds, after extraction from the pods, have been laid out to dry for export.



Falkland Islands

CATHEDRAL OF THE BISHOPRIC OF THE FALKLAND ISLES

Stanley was established as the capital of the British Crown Colony of the Falkland Islands in 1844. Situated at the north-east of East Falkland island, it consists of two or three streets of wood and iron houses, with cross-roads extending along the southern shore of Stanley Harbour. Christchurch Cathedral is a rather imposing structure of stone with brick buttresses.



WHERE SKILFUL NAVIGATION IS NEEDED: THE NARROWS OUTSIDE STANLEY HARBOUR, EAST FALKLAND ISLAND
Falkland Islands Co., Ltd.
Of the numerous landlocked harbours afforded by the deeply indented coasts of the Falklands the most frequented is Stanley Harbour, in East Falkland island. This is virtually a large natural dock, three miles long by about a third of a mile broad, sheltered from all prevailing winds and with good anchorage, rather restricted, however, for large vessels. Unfortunately the entrance to the harbour, through the Narrows, is difficult and dangerous, so much so that large ships never attempt to pass into or out of the harbour at night. Off East Falkland took place the stirring naval action of December 8, 1914



LONGWOOD: ISLAND HOME OF AN IMPERIAL EXILE

In this unpretentious dwelling in St. Helena, Napoleon I. passed the years of his exile until his death on May 5, 1821. The house is situated three miles and a half south-east of Jamestown, was specially built for the emperor, and derives its name from the Longwood Plains in the north-east of the island.

It was presented by Queen Victoria to the Emperor Napoleon III. in 1858



ST. HELENA'S FROWNING PORTAL VIEWED FROM ST. JAMES'S BAY

Precipitous cliffs line the coasts of St. Helena, the only practicable landing-place being at the head of St. James's Bay. Here Jamestown, seen in another photograph on page 388, stands at the foot of Ladder Hill, 600 feet in height and extending a short distance along the narrow ravine that runs for a mile and a half inland, one of the many water-cut gorges of the island



ERSTWHILE RESTING-PLACE OF NAPOLEON BONAPARTE

St. Helena, of Napoleonic fame, lies in the Atlantic 1,200 miles from the nearest point of Africa, and still treasures the white tomb which encased the mortal remains of the dead emperor from 1821 until 1840, when they were removed to the magnificent tomb in the École des Invalides, Paris. The original forest has disappeared, but fruit and cypripedium trees still flourish on the island and Norfolk pines.



ST. GEORGE ON ITS FINE HARBOUR WITH ANCHORAGE FOR A FLEET

Standing on an island of the same name St. George is one of the two towns in the Bermudas, and renowned for its fine, almost landlocked harbour, which can accommodate the largest fleet. It contains a naval dockyard and is a coaling station for the Atlantic Fleet. The islands have an area of nineteen square miles, and number about 360, of which 20 are inhabited.

calling station for ships using the Cape route to India ; its present insignificance from this point of view may be realized when it is stated that in 1921 only 26 ships touched here. The inhabitants, who number about 3,700, are poverty-stricken, and present a great problem.

Many efforts have been made to introduce crop plants which would yield products sufficiently valuable to stand the cost of transport to a distant market ; but without great success. Cinchona was tried at one time but appears to have failed. Though a variety of fruits, including, it is said, oranges, bananas, dates and figs, can be made to grow, insect pests have practically destroyed the orchards and fruit-groves of the island. New Zealand flax (phormium) is grown to some extent and there are several mills for dealing with the product. The women have been

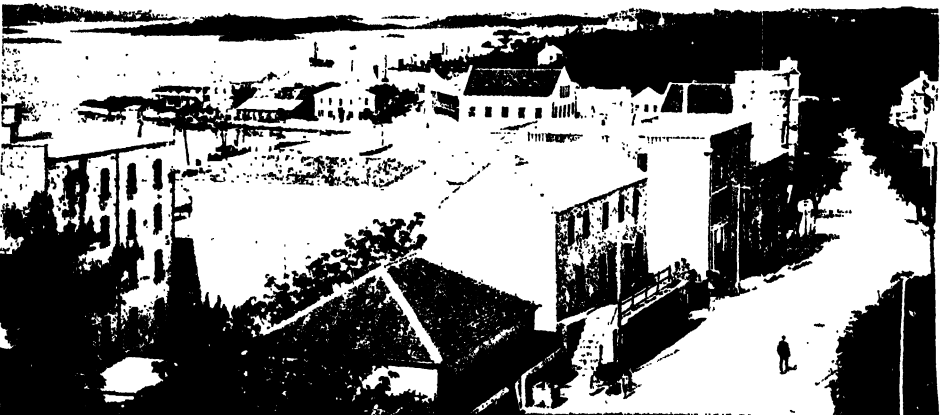


CORAL CUTTING ON ONE OF BERMUDAS' ROADS

This cutting through solid coral emphasises the formation of the islands which mark the northern limit of the activities of the coral polyp. The coral islets are well shown in a photograph on pages 384 and 385

taught lace-making, but the industry has not attained any importance.

St. Helena is an Admiralty coaling station and also a telegraph station.



OVERLOOKING THE WATERSIDE AT HAMILTON, CAPITAL OF BERMUDAS

Hamilton, in Main island, is built on the shore of Great Sound, whose waters are studded with islands. There is a brisk trade with New York, from which the archipelago is about 680 miles distant, in tomatoes, potatoes, and arrowroot. The islands are of limestone and red sand, with coral reefs. There are no streams or wells, rain-water being collected in tanks. The climate is very healthy

The subtropical island of Tristan da Cunha, in lat. 37° south, presents similar problems to St. Helena, but in an aggravated form. *It is exposed to westerly winds throughout the year, and has a cool, moist and equable climate, with far less summer heat than the Azores, which lie in the same latitude in the northern hemisphere. Its central volcanic peak rises to 8,500 feet, and is snow-capped for much of the year, while the steep cliffs and the rollers make approach from the sea difficult. The island is only visited occasionally by sailing ships. Introduced rats and mice are a great pest, and make grain cultivation impossible. The inhabitants, about 100 in number, rear cattle and grow potatoes and some temperate vegetables.

Of the temperate islands, the Faroes and the Falkland Islands resemble each other in that sheep form the main basis of the economic life of the inhabitants in both cases, helped out by the fisheries. Despite the difference in latitude also there is much similarity of climate, both having mild winters and cool summers and being moist and windy.

The Faroes belong to Denmark, though the inhabitants are mostly of Norwegian descent. They consist of about twenty islands, of which seventeen are inhabited, and the contrast, so far as density of population is concerned, with the Falklands is very striking. The latter consist of two large and

about 100 small islands and have a total land area of some 6,300 square miles, with a population of only about 3,300. But the Faroes, with the much smaller area of 540 square miles, lodge nearly 21,400 people, all in a condition of tolerable prosperity.

The scenery in the Faroes is very striking, the islands being characterised by their rocky scarps and magnificent sea-cliffs. On these myriads of sea-birds breed, forming a valuable accessory food-supply to the islanders. Much fishing is also carried on, and cattle are kept on a small scale. A little barley is raised, but potatoes form a more important crop, while hay is cultivated with care as winter feed for the cattle. Thorshavn, in Strömmö, the largest island, is the capital and chief town.

The Falklands form a British Crown Colony to which South Georgia, the South Shetlands and South Orkneys are attached. The scenery is hilly and rugged, with large expanses of moorland. As in the Faroes, peat is abundant and forms the only fuel available as trees do not grow. In 1920 there were 200 sheep per head of the population and wool is the chief export, followed by the produce of the whale fishery. There is regular communication with Great Britain and the islands are of some importance as victualling stations for ships making the passage round Cape Horn. Stanley, on East Falkland, is the only town.

ATLANTIC ISLANDS: GEOGRAPHICAL SUMMARY

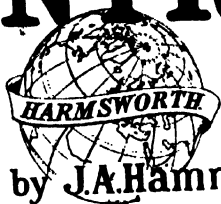
Natural Divisions, etc. Atlantic Ocean, a modern extension of the ancient Tethys, or Middle Ocean, over the foundered portions of the ancient continents of Atlantis in the north, and Gondwanaland in the south. Hence the coast-line crosses the grain of the modern continents, and there are no festoons of islands as in the Pacific. The larger islands are the subjects of separate articles, e.g. Iceland. The islands are classified by origin, as coralline, Bermudas; or volcanic, the Azores, Ascension, etc.; by location, as continental, the Falklands; or oceanic, St. Helena, Faroes, etc.; by climate, as temperate, e.g. Falklands; subtropical, e.g. Canaries; tropical, e.g. C. Verde

group; by use, as sanatoria, e.g. Madeira; market gardens, e.g. Bermudas; naval stations, e.g. St. Helena; whaling stations, e.g. Falklands. For Falkland Dependencies, see Antarctica.

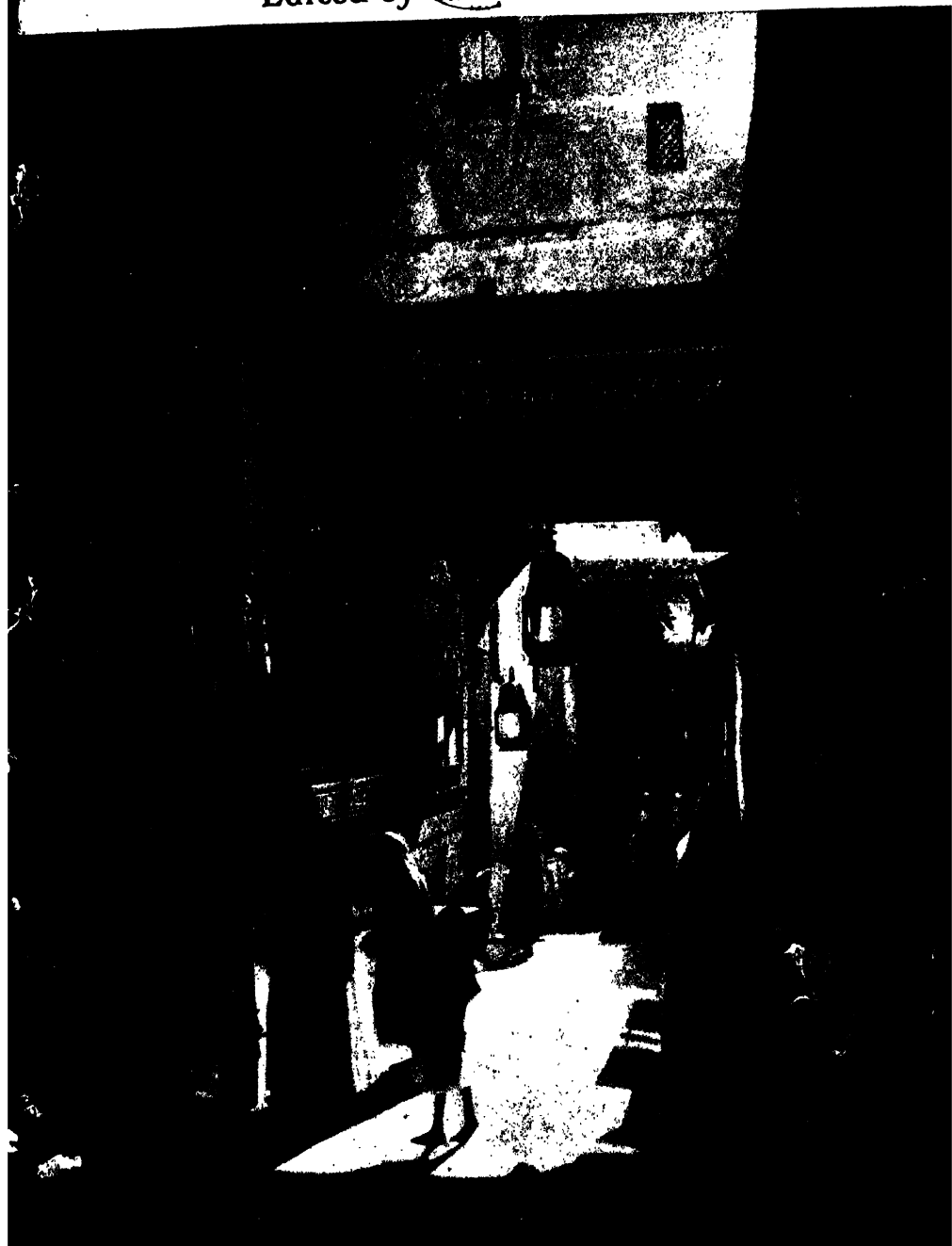
Outlook. Rockall, the Faroes, Gough Island, Fernando de Noronha, and Trinidad Island are isolated and of little use. St. Helena and Ascension have small prospects except as possible future aerodromes. The Falklands will depend on the development of Antarctic whaling. The Bermudas, Azores, Madeira, Canary, and C. Verde groups all lie in one or other of the sea-lanes, and will profit from their fruits and vegetables and as health resorts.

sunshine and colour in Tunis, Algiers and Morocco

[6] COUNTRIES OF THE WORLD



Edited by J.A. Hammerton



COUNTRIES OF THE WORLD will be completed in about 40 Fortnightly Parts

Contents of this Part

BALEARIC ISLANDS, Map & 18 Photographs - - - **E. G. Harmer**

BARBARY STATES " " 98 " - - - **Henry Leach**

PHOTOGRAVURE SECTION (16 pages), Barbary States

FULL COLOUR SECTION (8 pages), Barbary States

From the Editor's Desk

THE FLEETWAY HOUSE, FARRINGDON STREET
LONDON, E.C.4

AFTER experiments with specimen volumes containing different numbers of Parts, it has finally been decided that seven Parts of **COUNTRIES OF THE WORLD** shall constitute a volume. This, I am convinced, will result in a volume at once solid and dignified in appearance, and at the same time easy to handle; but readers will be better able to judge with the appearance of Part 7 itself, on the back cover-page of which a full-colour representation of the two styles available for subscribers will appear. In the meantime, a preliminary announcement will be found on the same page in this Part; but I think it best to reserve the complete details until my readers have the illustrations before them and can form their own opinions on the subject. These notes, by the way, should relieve the apprehensions of one correspondent who writes to me suggesting that it would be a good idea to bind the Parts of **COUNTRIES OF THE WORLD**—evidently a new recruit to our circle of subscribers!

A Happy Compromise

OF course, there are two factors to be considered in deciding the bulk of a volume; and as these Part publications of ours are always produced with a view to being eventually bound, the whole subject demands great care and thought. In the first place, the greater the number of Parts that can be compressed into one volume, the fewer the volumes, and therefore the less the total cost for subscribers; but, on the other hand every one knows by experience how tiring to read a really heavy book can be—how one shifts from side to side, trying first one's knee, and then the arm of the chair for support, and is at last driven to the uncomfortable expedient of a table and a hard seat! In the present instance, however, I think it will be generally admitted that a happy compromise has been reached; and I hope that no subscriber will fail to take advantage of this splendid opportunity of preserving his sets in such a beautiful and enduring manner.

THIS Part, it will be noticed, contains only two chapters—on the Balearic Isles and the Barbary States; and I hope that this will not cause any uneasiness among my readers as to the space allotted to subsequent chapters. One correspondent already, for instance, in an otherwise appreciative letter, has remarked:

Your work is to be completed in about 40 parts, and I see you are to have 21 chapters, an average of over 3 chapters per part. It seems to me that the whole of one part will be required if you are to deal fully with some of the larger countries; and if this is not the case, the inevitable pruning will lessen the value of the work.

By this time my notes on the subject in Part 4 will have appeared and set his mind at rest, and I can further assure him that the United States, which forms one of the subjects of his inquiry, will be treated no less fully than the British Isles. After all, five chapters per Part is only an average, and a reference to Part 1 will show that it contained seven, besides all the introductory matter.

The Barbary States

BUT to revert to the contents of this Part, it seems to me that the Barbary States well merit the space devoted to them. Geographically speaking, they may be regarded as a unit—an outlying portion of Europe, as it were, for Africa proper only begins on the further side of the Atlas Mountains; but actually they contain so many different elements and so many diverse points of interest, support so many vigorous and growing towns and are the goal of such an increasing number of visitors, that even neglecting their not inconsiderable area it would have been impossible to do justice to them if the chapter had been at all compressed. And I think that readers will be especially satisfied with the illustrations that accompany the chapter—the sixteen-page photogravure section is one of exceptional appeal, while in some ways the colour section marks the highest level we have yet achieved.

[Continued on page iii. of this wrapper]

BALEARIC ISLANDS

Sea-Girt Outposts of Spain

by E. G. Harmer, F.R.A.I.

Writer on Anthropology and Archaeology

FLUNG like a chaplet across the Western Mediterranean, as if to span the blue expanse between Alicante and Sardinia, the Balearic Islands, varied, sunlit, productive, may well claim pride of place among Spain's fairest provinces. There are two groups. That to the east, the "Insulae Baleares" of the Romans, comprises Mallorca and Menorca—we call them Majorca and Minorca—with seven inhabited satellites, of which Cabrera is the chief. The western group, distinguished in classic days as the "Pityusae" or Pine Islands, consists of Ibiza—to us, Iviza—and Formentera, with four attendant islets, also occupied. Scattered between 1° and 5° E. long., in 38½° to 40° N. lat., they have a total area of 1,035 square miles.

Summits of a Sub-aqueous Ridge

Rooted beneath the sea floor in the distant Andalusian sierras, the upland crest of the archipelago turns its convexity to the sun, as if to affirm that once it served as a glacis to the Peninsula. Nearly 60 miles of sea intervene between the easternmost cape of Alicante and Iviza; it is 50 miles thence to Majorca and less than half that distance to Minorca. Each island rests on a broad couch within the 100-fathom limit, with somewhat deeper depressions west and east of Iviza. The sub-aqueous ridge whose emergent summits make up the Balearic chain falls away sharply towards Provence, Sardinia and the Barbary lands, into the profounder Mediterranean deeps.

Between the Ivizan peak of Atalayasa and the distant Mount Toro in Minorca, both less than 1,800 feet high, the sierra rises again to skirt the long,

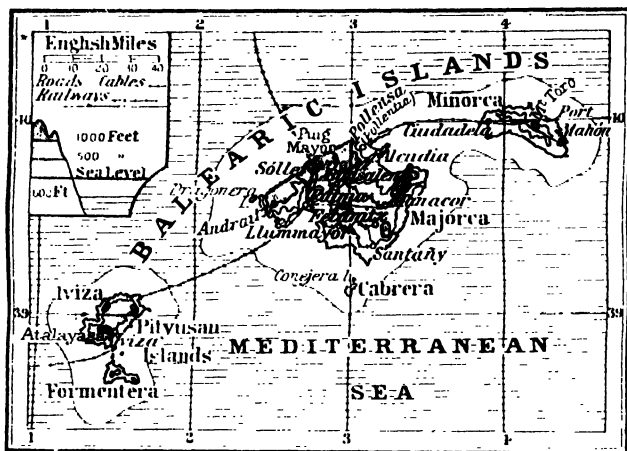
precipitous north-west coast of Majorca, where it culminates in the 4,770 feet of the Puig Mayor. The sunward slope of this tumbled mass sinks into the tertiary alluviums which make of the Palmesan plain a garden of the Hesperides. Here are no perennial streams, but rocky torrent beds, usually dry, and the aspect of the land betokens at once the need for irrigation and its triumphant accomplishment by human hands.

Beneficent and Equable Climate

For whereas the uplands present a rugged framework of hardened jurassic limestones, scantily encrusted with softer soil, the hillsides display that patient system of terraced cultivation which arose out of the old Mediterranean civilization. Here steep scarps and counterscarps of unmortared boulders buttress the narrow terraces. Even the arable plains are scored by massive walls, representing age-long efforts of man to rid the soil of its stony encumbrance. In Minorca's more arid expanses there are barrancos or glens silted up by seasonal torrents whose sediment perforce lay as it fell, under the indulgence of the tideless sea.

Happily the terrestrial conditions are conjoined with a climate of exceptional suavity. Palma itself, protected from the northerly winds by its crescent of highlands, seldom knows a temperature below 41° F. on a winter night, although snow lies scantily on the distant summits now and then. The air of a December noon may reach 68°, but a hot summer's day would mark no more than 90°. The daily range is singularly equable, with a sharp drop towards sunset, counterpoised by an increasing warmth after the dawn. Rains, sometimes

torrential, are not normally persistent, and although concentrated mainly upon the spring and autumn months, cannot be looked for, year in year out, on more than one day in six. Heavy clouds may appear for a time, but the resistless sun bursts through almost while you watch.



CONTOUR MAP OF THE BALEARIC ARCHIPELAGO

Winter gales are not unknown, and the feluccas sometimes lie windbound in the bays for days together. Minorca's mistral days are comfortless, because no mountain belt protects the capital, Ibiza, which also knows the touch of the northerly blast, knows, too, the scorch of the sirocco from far-away Africa. But for the most part the breezes are kindlier and often zephyrous, while few days in the year register a stagnant calm. From August to October the well-to-do Mallorquins retire to their hillside villas where the air is fresher and the mosquito, non-malarial but irritant, is left behind.

To say that the Balearic vegetation is an insular variant of the Mediterranean flora is to call up a vision of coastal plains bestrewn with hoary olives, with opulent vineyards and intrusive colonies of prickly pear. As one ascends the scrubby hillsides behind Palma, with their garment of carob trees, their undergrowth of lentiscus and bushy heath, and in the springtide their riot of anemone and cistus, one reaches at length the zone of evergreen

oak. The Aleppo pine is to be seen at all altitudes, down to the lapping of the waves, and an avenue of palms confronts the busy quay. Rabbits and hares provide the Mallorquin with four-footed game. Some hunt them with the lean yellow greyhounds which are

descended from the old desert breed brought by Phoenician mariners from the ancient Nile Valley, as depicted in Tutankhamen's tomb. Partridges were introduced by King Sancho more than six centuries ago. The winter migrant feels singularly at home with the bird life which shares his southward flight, although now and then he encounters unfamiliar forms also, a skein of Balearic cranes or a community of flamingoes from the salinas.

Above all, Majorca is an orchard and a garden. Five centuries of Moorish industry left behind many a vestige, in aqueduct and well, breastwork and garden stading, which Catalan energy has turned to account or used as an example, and everywhere the rains are conserved in giant cisterns, often holding a year's supply. In some places the cultivator must pay for his irrigation water, which is served out to his lands in rotation on fixed days, as in ancient Mesopotamia. Happily, in a clime so kindly, the return is sure. No January but finds the Andraitx hills a mass of almond bloom, no March when garden vegetables and oranges are not at their juiciest, no November without its harvest of olive, persimmon and fig.

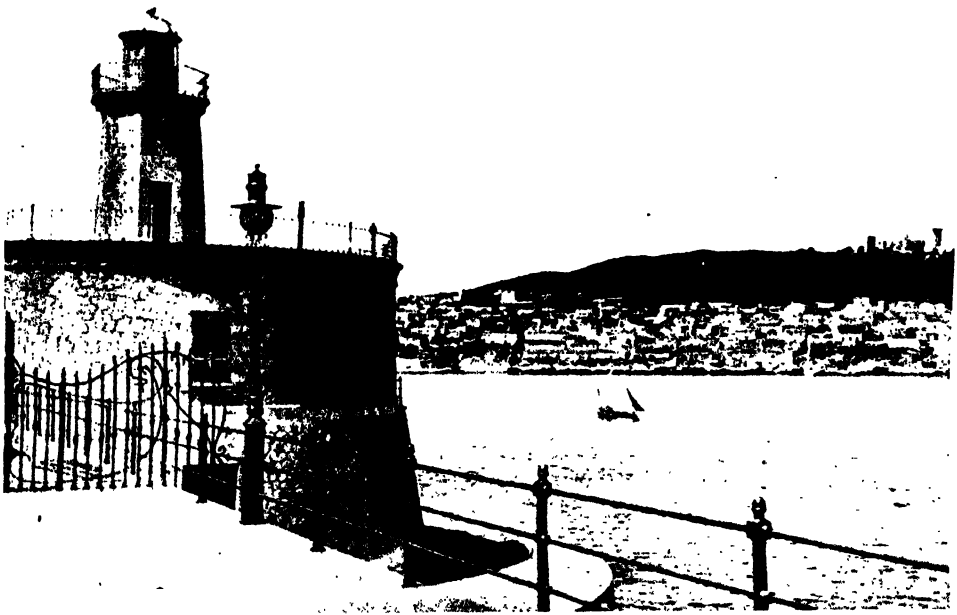
Except some Devonian outcrops on the north Minorcan coast there are no primary rocks. The sierras are built up of secondary formations, much faulted and contorted, in which liassic beds predominate, with masses of triassic dolomites here and there. The tertiaries lie upon these older series in the plains. When the Thames was

depositing the London clay, the material furnished by the denudation of the calcareous rocks of Balearica was being redistributed through the medium of nummulites, and Balearic lakes were submerging the brown lignites which are mined to-day at Binisalem and elsewhere. Unequal in calorific value though they be, during the Great War they eked out the supply of Asturian coal, which now encounters once more the effective competition of English and Welsh coalfields. This is why the 50,000 tons of lignite mined in 1920 dropped in the following year to barely three-fourths of that quantity.

Here and there patches of intrusive rocks are accompanied by metalliferous ores and other minerals. The mines of copper, iron, lead and silver are now of little account, but there is an active exploitation of red and white marbles, jaspers and rock crystals, and other useful stones. Of the freestone much use has always been made, as the

ramparts of Palma, with its Gothic triumphs, the Lonja and the cathedral, bear witness. On the east coast the stalactitic caves are among the largest in Europe, and are paralleled on a corresponding scale in Minorca.

Time was when these island-bred Catalans were the best geographers and chart-makers in the world, when they built 30-bench galleys alongside the Palma mole, and manned 460 vessels to try conclusions with the Barbary corsairs. With an inherited aptitude for seamanship, the present Balearians are skilful fishermen and boatmen; to watch their feluccas strung out like a rosary from cape to cape is a perennial delight, even though the strident chug-chug of their motors is insistent nowadays. Apart from its welcome consignments of fresh fish, the toothsome lobsters which Palma sends to the Barcelona shops bring in a yearly revenue of £8,000 or more. The forests, although yielding little



ISLAND OF MAJORCA SEEN FROM THE LIGHTHOUSE IN PALMA BAY

The Balearic Islands, consisting of four large and several small islands, lie in the Mediterranean off the east coast of Spain. Majorca, the largest, is 60 miles in length by 48 miles in breadth, with an area of 1,325 square miles. Palma, its principal town, is built about the base and slopes of an amphitheatre of hills overlooking the bay of the same name



VILLAGE LIFE IN THE TRANQUIL COUNTRYSIDE OF MAJORCA

E. N. A.

Though the Balearic Islands are out of the beaten track of the tourist, Majorca is steadily growing in favour as a haunt of the artist and archaeologist. A pleasing feature of the island is its tranquillity. It is free from brigandage. In the remotest mountain village may be found a delightful hospitality, with a matchless honesty which prevents the slightest exploitation of the unwary traveller.



E. N. A.

MAJORCA: AT THE ENTRANCE TO A COUNTRY COTTAGE HOME

There are a simplicity and charm about the Balearic Islands that make few places in the Mediterranean better worthy of a visit. Majorca, especially, has innumerable attractions, not the least of which are its varied scenery and rich vegetation, for the soil is fertile and the island, on the whole well-irrigated, produces wine, olive-oil, cereals, figs, oranges, lemons and other fruits in abundance.



Ernest P. Smith

FLYING BUTTRESSES AND PINNACLED TOWERS OF A FAMOUS MINSTER

The Gothic cathedral of Palma is built of golden-brown sandstone, and was begun by Don Jaime I, soon after his conquest of Majorca, and completed, with the exception of the modern west façade, early in the seventeenth century. It stands on the east side of the harbour and dominates the view over land and sea. In the interior is a marble sarcophagus containing the body of Don Jaime II

good timber, half the annual importation of 4,000 tons being from the Baltic, provide occupation for a large population. After meeting its local needs, Majorca sends away an annual total of 11,000 tons, including material for Valencia fruit boxes and wine barrels, besides nearly 2,000 tons of wood fuel, and more than half that weight of furniture, wickerwork and esparto ware. The total return to the island amounts to £94,000. Many young pines are being sacrificed for pit-props, and even for fuel. There is no evidence of any provincial programme of reafforestation, and it becomes a serious question how far the present policy of indiscriminate denudation, encouraged by the demand for ground for almond culture, will in no distant future bring about radical changes in the geographic control. An Arbor Day inaugurated in the spring of 1924 may set a much-needed example.

The area under arable cultivation may be put at 200,000 acres, nearly

one-fourth of the whole land surface, with an almost equal area, partly overlapping the other, devoted to the care of the olive, vine, almond and carob. The value of the agricultural harvest is £1,600,000, including the portion which goes to Spain, France and Algeria. The tendency is to devote more and more attention to almond and carob, at the expense of olive and vine and—as in Iviza—to nurse the apricot supply. The rice grown in the marshy swamps near Alcudia may date back to Punic times. In Minorca there is a profitable production of honey, butter and cheese.

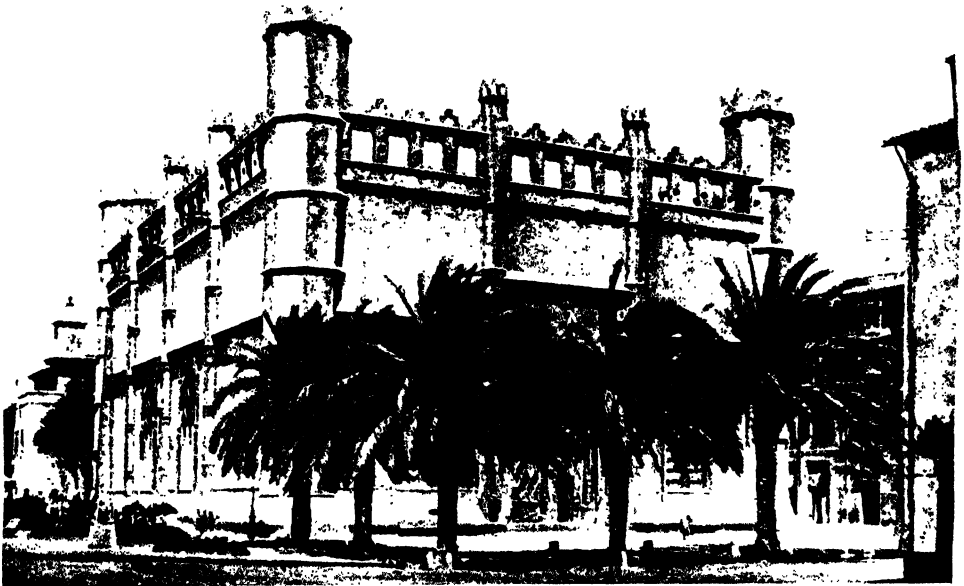
Some attention is given to horse-breeding. Mules are highly valued and there are substantial herds of sheep and goats. But the principal interest of the live-stock breeder centres in the pig, for which the forestal conditions are peculiarly favourable, while the fodder supply is supplemented for weeks together by a surfeit of fresh figs. In Minorca the pig population is housed

in palatial structures simulating the old megalithic architecture, and many a pig-breeder contentedly puts the comfort of his own habitation in the second place. Barcelona and Valencia look forward with avidity to their supply of Majorcan and Minorcan pigs, which may fetch ten pounds apiece and have been known to figure in the export returns at 60,000, not to mention several hundreds of tons of hog products.

The primitive methods by which agrarian operations are carried on are in strong contrast with the up-to-date-ness of current manufacturing developments. Within recent years, and especially during the Great War, the Balearcan people have successfully claimed admission into the general comity of modern mechanical industrialism. The old Moorish ramparts, once Palma's jealous pride, are fast being effaced in favour of factories which may vie in size and equipment with those of Barcelona itself. Boots and

shoes are turned out both by co-ordinated home labour and in commodious works. The insular embroidery shares with these the appreciation of Spanish and South American markets. The Mallorquin aptitude for masonry and joinery is innate. The most remarkable of these industrial movements is the production from imported silver, gold and platinum wire of chain-mesh bags and purses which find an eager demand in every part of the world. In all these and similar enterprises Minorca sustains with success a keen competition.

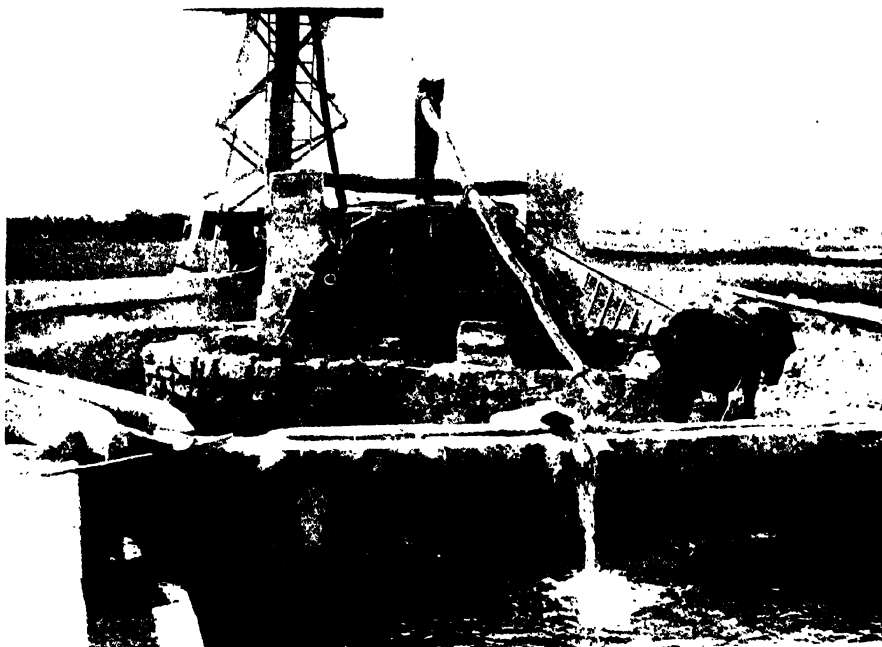
The new social conditions created by this industrial organization, with its apparatus of strikes and labour controversies, are destructive of the aristocratic serenity of the past. The inherited wealth of the old landed families, whose ancestors came in with the Conquistador in the thirteenth century, is being inevitably sapped. Out of the 573 farms and urban properties of which King Jaime despoiled the Moor



Ernest Peterffy

ONE OF PALMA'S MOST BEAUTIFUL AND HISTORIC BUILDINGS

The Lonja, once the Exchange, a sandstone building of considerable architectural merit, resembles a Gothic castle with four corner towers, two slender turrets between each, and a fantastic parapet surrounding the roof. It was erected during the first half of the fifteenth century and rapidly became the centre of important commercial activity; it is now used as a provincial museum.



IRRIGATING THE FIELDS IN THE ISLAND OF MAJORCA

This strange type of well is still in use in the Balearic Islands. Many wealthy land owners have erected wind-motors alongside their wells to replace the work of the mule whenever the breeze makes it possible. In calm weather, however, the wells are operated by the patient, blindfolded mule that does its duty all day long like a living machine. The scaffold of the wind motor is seen in the background.



Ernest Peterffy

FILLING THE PITCHER IN AN OLD-WORLD CORNER OF PALMA CITY

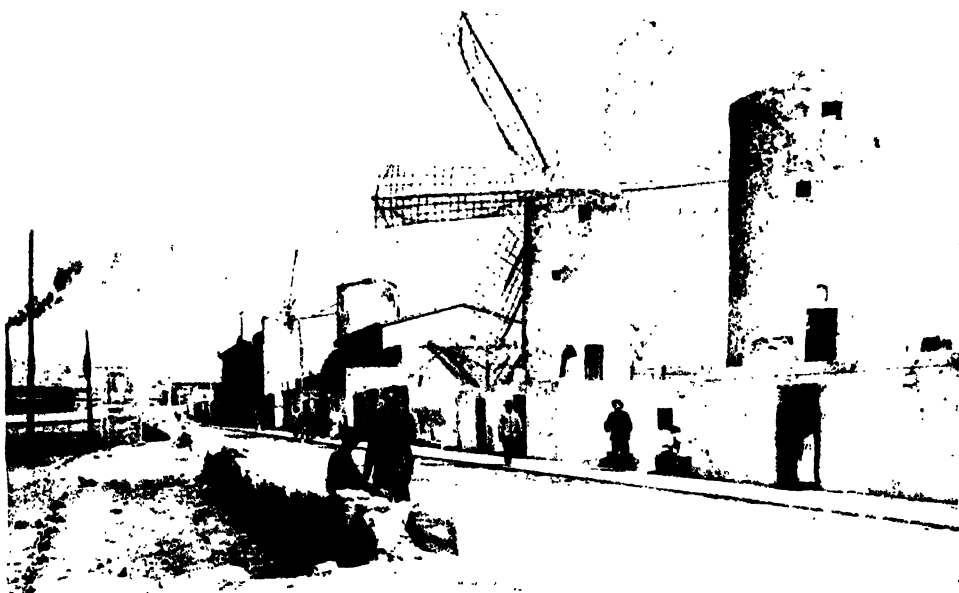
The progress of modern times has by no means done away with, but only modified the use of the primitive wells to be found in the towns and country places of the Balearic Islands. This photograph shows a curious turning-well at Palma. By means of wheels worked by hand, the water, pumped into pipes, discharges through a spout, the flow being regulated by a small hand-wheel.



DIVERSE DWELLINGS ON THE OUTSKIRTS OF PALMA

Ernest Peterffy

Dwellings of every description may be found in and around Palma, including the windmill home of the peasant, two examples of which are seen above on the hill, and the relatively palatial residence of the aristocrat. Many houses are in the Moorish style, for the long period of Arab rule has left its mark on the people's customs, and to some extent on their physical type.



OBSOLETE WINDMILLS GIVE SHELTER TO PALMA'S POORER PEASANTRY

Ernest Peterffy

The numberless windmills impart an air of great activity to the suburbs of Palma. Originally they were used for crushing olives, but many of them are now inhabited and it is said that their inmates highly appreciate them as cool dwellings. The inhabitants of Majorca are mainly Spanish with a mixture of Moorish blood, and in character they are hard working, honest and hospitable.

for his followers' benefit many have passed into other hands. A new order is arising. The banker and lawyer are now a power in the land. The medical practitioner, for all his medieval ways, has bacteriological laboratories at his command, and even the fisherman may, if he will, take counsel of his marine biological station. The Instituto in

efficient service. The mail steamships which ply between this port and Barcelona four times weekly are supplemented by other services—weekly, with Port Mahón and Iviza, Valencia and Alicante; monthly, with Algiers and also with Marseilles.

Apart from the land-lines and submarine cables, over which Palma handled



SPREADING FISHING NETS TO DRY IN PALMA

Ernest Pettrifly

The name Balearic, or Slingers', Islands, is said to have been derived from the skill of their original inhabitants in using the sling, chiefly in the armies of Carthage and Rome, for these islands passed successively under the rule of Greeks, Carthaginians, Romans, Vandals and Arabs. Fishing is an important industry, and many of the coast dwellers of Majorca depend upon it for their livelihood.

Palma, affiliated to the Barcelona University, focuses the provincial education, which, despite much illiteracy, is no whit behind the mainland standard.

Notwithstanding the growing zest for motoring, the public roads are but indifferently good. There are 415 miles of provincial highways in the main island, with, 45 miles of local rate-supported roads, and many exiguous mule-tracks. The 75 miles of railway link up the main market towns, and auto-buses are replacing the picturesque mule-drawn carts. In Palma itself eight miles of electric tramway provide an

448,922 telegrams in 1921, there is a Telefunken wireless station at Port Mahón within reach of the mainland system, and a Marconi station at Söller with a range of 500 miles, dealing with both ship and shore traffic. An Aero-Maritima Mallorquina has high hopes of future aerial transport, and an airport with Barcelona may come in the immediate future.

When the present-day tourist glides into Palma Bay shortly after the dawn, and lands upon its fourteenth century mole, his first thoughts are for the amber-tinted gleam that irradiates the



FISHING BOATS MOORED IN THE HARBOUR OF PALMA

Ernest Peterffy

As capital city and the residence of the Captain General, Palma enjoys considerable prestige in the Balearic Islands. As a port it carries on a prosperous trade chiefly in fruits and vegetables, in addition to exports of woven cloth and other locally manufactured articles. In the background rises the beautifully proportioned Lonja, or old Exchange, testifying to Palma's former commercial importance.



IN PALMA BAY: THE FISHERMAN'S HOUR OF EASE

Ernest Peterffy

The small casks contain fresh water, a precious possession in Majorca, and as glasses are generally considered a luxury among the fisherfolk this man performs almost an athletic feat to quench his thirst. Beyond the waters of Palma Bay is seen the village of summer residences called the Terreno and the suburb of Santa Catalina, while crowning the wooded hill is the old royal Castle of Bellver.



J. ROG

MINORCA'S OLD CAPITAL AND THE NARROW WATERWAY WHICH CONTRIBUTES TO THE TOWN'S PROSPERITY
 Ciudadella, situated at the west end of Minorca, was the capital of the island until the arrival of the British at Mahón, and the fine road running across the island between these towns is of British construction. It is now the second largest city, the see of a bishop, with a fourteenth century cathedral, and fragments still exist of the ancient walls which fortified the town in former times. The inlet on which it stands is so narrow that only small vessels can ascend to the town in fine weather, nevertheless it has a considerable foreign trade, including exports of cattle, wool, cheese and stone



PORT MAHÓN, FORTIFIED CAPITAL OF MINORCA, AT THE HEAD OF AN INLET ON THE EAST COAST
 Mahón, or Port Mahón, is the capital of Minorca, the island so small in size, with an area of about 200 square miles, and the most easterly of the Balearic Islands. Port Mahón has a remarkably fine harbour, one of the best in the Mediterranean, and is strongly fortified. In former times several foreign fleets were wont to shelter here during the winter months. The town, which was occupied by the British in the eighteenth century and ceded to Spain in 1802, was known to the ancients as Portus Maconi, and stands on a hill on the south side of the harbour. It has an arsenal and a wireless telegraphy station



Finest Pottery

WOMAN WATER-SELLER IN THE STREETS OF PALMA

Water has a commercial value at certain times and in certain places. In Majorca, and the scarcity of fresh water is the only drawback to many a lovely rural spot, while in the bigger towns the water-seller is both a familiar and a welcome figure. The large, two-handled earthenware jars are of local manufacture, for pottery, particularly the glazed majolica, is a time-honoured industry of the island.

city, with its crowning cathedral glory, and its Saracenic spell. But the spell is soon broken. The raucous rattle of a couple of three-ton electric cranes, and the exigent posters announcing the day's cinema or "football" attractions, combine to establish Palma's claim to a place in the modern world.

The annual returns for Majorca, typifying in a corresponding degree those of the sister islands, visualise a complex web of trade. In 1921, 1,532 vessels entered its ports, bringing 143,634 tons of merchandise, valued at £2,900,340. They carried away 58,145 tons, of the value of £2,135,180. In the former the dependence upon the outside world for the primary needs of life is shown by the 55,000 tons of imported foodstuffs, of which half comprised wheaten flour and grain, and the 20,000 sheep, besides cattle and goats, and even by the importation of a supplementary supply of 2,000 tons of olive-oil.

Although the primitive alternation of fallow survives, the soil is regenerated with 18,000 tons of phosphates and other manures, while the industrial life is sustained by 30,000 tons of coal and coke, 10,000 tons of petrol and 5,000 tons of metals. The exports are no less varied. Pride of place belongs to the almond, responsible for an annual revenue of £500,000. Dried figs and poultry— notably turkeys— each account for £50,000. Of manufactured goods, boots and shoes yield £250,000, and textile yarns and fabrics £360,000.

Of the total provincial population of 350,943, Palma claims 78,363, Mahón (Port Mahón) 18,679, the old Minorcan capital of Ciudadela 9,369, the city of Iviza 6,657. Palma is growing faster than its namesake Las Palmas in the larger and more populous province of the Canaries, and already surpasses it by 10,000. Of the other Majorcan towns thirteen range from 12,000 to



PROSPECT OF THE ISLAND AND HARBOUR OF IVIZA, WITH A GLIMPSE OF ITS CAPITAL IN THE FOREGROUND

The island of Iviza is the westernmost of the Balearics. It has an area of some 229 square miles, is hilly and wooded, with a healthy climate and picturesque scenery. The soil is fertile and produces good crops of corn, while figs and prickly pears are abundant, and some mineral deposits are exploited. The population of about 24,600 persons is scattered and the only important town is Iviza, the capital, which exports fruit, salt and lead, and manufactures hosiery. A thirteenth century cathedral still exists, and there is an old castle built by Philip V., from which this fine view of the island is obtained.



J. B. B. B.

LANDSCAPE OF THE FERTILE SPANISH ISLET OF FORMENTERA IN THE WESTERN MEDITERRANEAN

The smallest and most southerly of the Balearic Islands is Formentera, lying seven miles to the south of Ibiza, with an area of 37 square miles, and an approximate population of 2,600. Fishing and salt-making are among the chief industries, and the excellent corn produced is said to have been responsible for the island's name, derived from Frumentum. This view is from the church of San Francisco; in the far distance is seen the long undulating mountain range of Ibiza island which, together with Formentera and some smaller islands, formed part of the group known to the ancients as Pitiusae, or Isles of Pines.



J. Rong

ROCKY ISLET OF CABRERA LYING TO THE SOUTH OF MAJORCA

The only important features connected with Cabrera are the sheltered harbour and the old castle built on a rocky eminence. The island, occasionally visited by tourists, is an almost uninhabited tract of land, three miles long by four broad. It acquired considerable ill-fame during the Peninsular War on account of the harsh treatment meted out to the French prisoners interned there.

5,000 apiece, and the largest of them, Manacor, Felanitx and Lluçmàyor, are a standing witness to the town-planning genius of the first Majorcan king. There are thirty-five villages of 5,000 and under, and in the uplands old Moorish cyries still harbour scantier populations. In Iviza, with its flatter relief, the people tend to congregate in four villages averaging 4,500; in more arid Minorca, five villages average no more than 3,000 apiece.

The flat-roofed houses, the patios, the miradors, the closed lattices, the house-wells, all testify to the Moorish domination, just as Mahón's sashed and lace-curtained windows, unbalconied, unshuttered, recall the distant years when Minorca was a stronghold of eighteenth century Britain. Although there is a provincial committee of health and another for infant welfare, the old-world pharmacy-jars and mortars, redolent of medieval alchemy, are still to be seen here and there. The separate storage

of potable and domestic water makes for health, and the exemplary cleanliness of the Balearic fonda would put many a village inn in England to shame.

Palma still retains its old narrow streets and Moorish palaces around the cathedral and the exchange, but its present ambit of four miles embraces 5,000 houses, some of them in great blocks of many-storeyed offices and undistinguished dwellings. Sóller is a dream of delight in an orange orchard. Alcudia is as active as when Roman exiles, 2,000 years ago, wrought its massive walls and handsome mosaic pavements. From this port one may cross to Ciutadella, the quondam capital of Minorca, and drive over a British road, two centuries old, into Mahón, one of the finest ports in the Mediterranean. To Iviza the tourist makes a run in order to visit its salinas, or to meditate upon the rock-cut hill which once was deemed a sacred place of sepulture.

BALEARIC ISLANDS: GEOGRAPHICAL SUMMARY

Natural Division. Summits of a submarine ridge of tertiary origin, continuations of which connect with the Sierra Nevada and the Alps; to the east is the sunken basin of the Western Mediterranean.

Climate and Vegetation. Both the mistral and sirocco are felt though hills

give shelter to many parts. Insular Mediterranean climate, with hot, dry summers. Mediterranean flora; olive, vine, almond, carob.

Products. Timber, lobsters, pigs, figs, fresh vegetables, almonds, oranges, olives, persimmons, turkeys, boots, shoes and textiles.

BARBARY STATES

Morocco, Algeria & Tunisia of To-Day

by Henry Leach

Author of "Along North Africa," "France in North Africa," etc.

THE BARBARY STATES is a suggestive name of ancient flavour applied to that part of North Africa which embraces Morocco in the west, Algeria in the middle and Tunisia in the east. Each of these states extends southwards until in effect it is lost in the great Sahara.

From the Barbary coast the French are now dropping several lines into the depths of the desert and the idea is being developed of a great central railway from Lake Chad up through Tunisia along an ancient desert track and another from Timbuktu to the Algerian coast. For such and other reasons these Barbary States, which but yesterday, as it seems, were the home and headquarters of fierce pirates who made things continually uncomfortable for all navigating Christendom, loom now as jewels of the new French Empire and a grand source of supply of warriors and food. They constitute probably the most fascinating colonising proposition in progress in the world.

Physical Uniformity of North Africa

We do not include Tripoli (Libya) because, for one reason, Tripoli is dealt with separately in this work and, for another, it belongs to a different North African system; but to the three representative parts of our Barbary States two others should be added—the so-called international zone of Tangier and the patch of northern Morocco, including the Rif, which constitutes the Spanish zone.

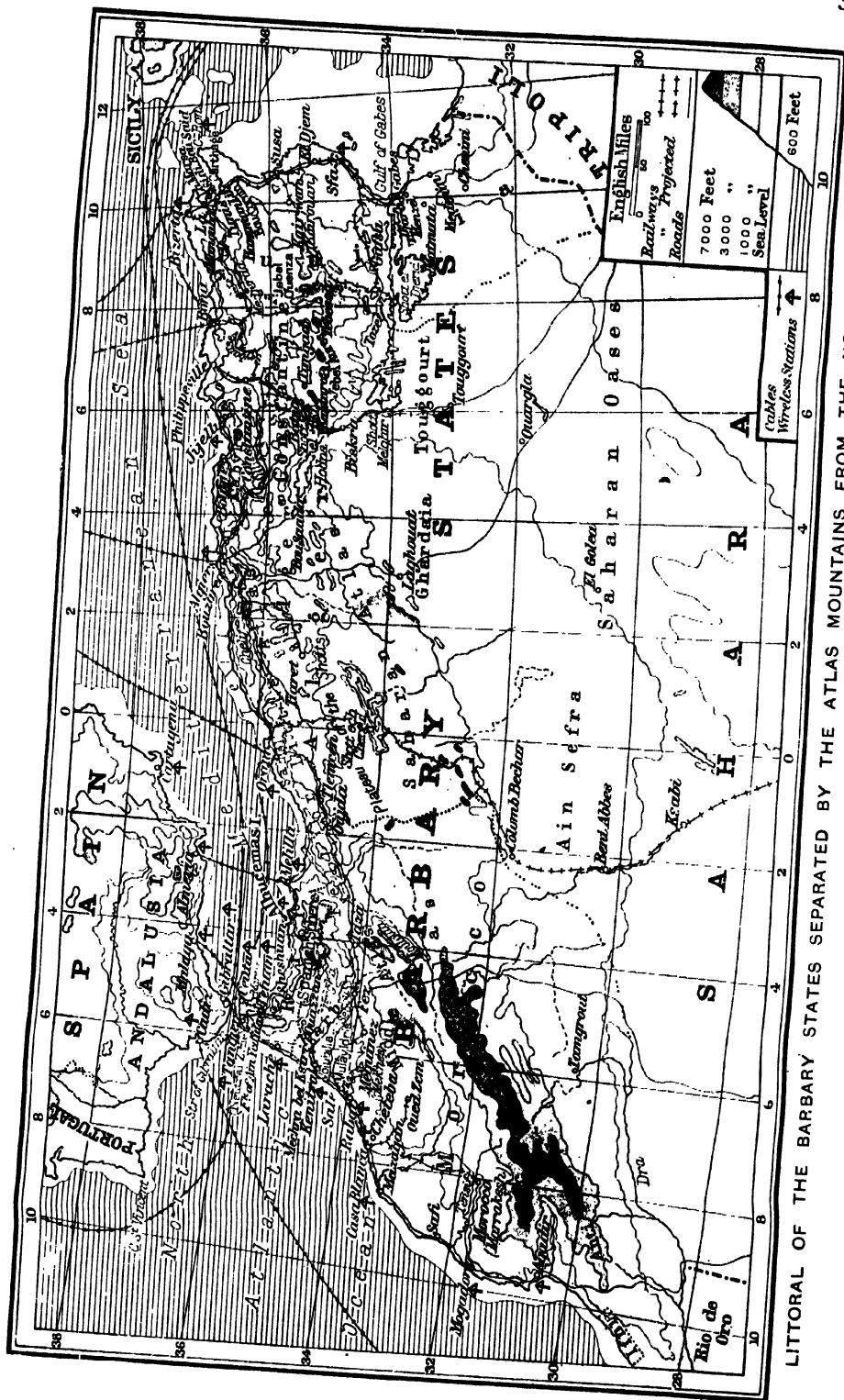
Geographically there is little to distinguish these different parts of North Africa from each other. There is a smoothing from west to east as the force of the Atlas Mountains

spends itself. The littoral is for the most part backed by formidable ranges of hills, whose jagged and pointed features are conspicuous, and beyond, gathering in size and consequence westwards, are the dominating Atlas Mountains, after which in Morocco is a larger patch of fertile plain than is found elsewhere in North Africa. Such coastal ranges, constituting the Rif, are an important feature of the Mediterranean coast of Morocco and are occupied by warlike tribes who have tested Spain almost to the breaking point of her effort in Africa.

Latin Influences on the Land

Again, east of Algiers are the Kabyle ranges inhabited by a people who have preserved most of their original Berber blood and customs and are almost self-governing though living in that part of North Africa which is the most French of all. Good workers and agriculturists, they have a general independence of thought and action. They have accepted the religion of Mahomet, but almost alone in Islam they have contracted out of many of the obligations imposed upon the Mussulman by the Koran, especially in the matter of the civil law; while their women, like those of the Tuareg bandit race of the Sahara, but not to the same degree, occupy socially and politically a high place, walk about unveiled, have their rights, and usually hold their husbands to monogamy. The Kabyle country is thick with villages and is densely and increasingly populated.

The Berber, the Roman, the Arab and now the French—those are the chief eras of North Africa from our point of view. The Romans made a



LITTORAL OF THE BARBARY STATES SEPARATED BY THE ATLAS MOUNTAINS FROM THE NORTH AFRICAN DESERT

tremendous mark upon the land; they have left the most amazing and impressive monuments of their occupation behind them, principally the city of Timgad in Algeria which rivals Pompeii, and the amphitheatre of El Djem in Tunisia, which is second only to that of Rome itself. Observe now the different degrees or shades of the present French occupations of the North African territories. Here France, with her greater resources of modern civilization, an élan and imagination which certainly none of her predecessors exceeded, is renewing the great enterprise of the ancients. It varies in the three places or countries according to political circumstances and necessities, and makes a difference, apart from all geographical, native or other considerations, which all may see.

Algeria in the middle is altogether French, having been formally annexed and virtually made a "department." In Morocco there is a Sultan in apparent authority, with the "maghzen" which is his ministry about him, but the authority of the protecting power has steadily increased and that of the maghzen has to a like degree declined.

In Tunisia, where the native ruler is called the Bey and the government the Regency, the natives are not precisely of the same way of thinking as the Moors of Morocco, and the somewhat vague Tunisian element, largely Oriental but not Arabic in origin—big, splendid fellows who to some extent suggest the Turk—accept the French Protectorate but do not unanimously rejoice in it, although the major and



Donald McLeish

THE CATHEDRAL, CENTRE OF MODERN TUNIS

Opposite the palace of the resident-general of Tunisia is the Roman Catholic cathedral. Gaily tiles adorn its unlovely façade and a figure of Christ with arms outstretched in benediction crowns the arch of its main doorway.

better elements freely admit its value and efficiency. The situation in Tunisia is further complicated somewhat by the large Italian colony coming from Sicily, by the conjunction of southern Tunisia with Tripoli (Italian) and by the difficulty the French experience in inducing sufficient immigration from France itself.

It might be said that the whole country from western Morocco to eastern Tunisia is the result of a system and effect of nature of which the Mediterranean and southern Spain, with Sicily also, are a part. It is certain that in the past Europe and Africa were linked, and probably by something stronger than an isthmus at Gibraltar, while even now in their separation they maintain a correspondence.

Mountains are massed most formidably in big ranges of great height in the middle of Morocco, the Great, the Middle and the Little Atlas, which shut off the low, green, cool and well watered enclosure of Atlantic Morocco from the rest. Picturesque and an enticement to adventurous mountaineers, they are always snow-covered, and sometimes a rosy tint is given to the peaks which is attributed to dust of

mountains of smaller dimensions than the Atlas, and they only begin to fade and slope away when the Tunisian eastern borders are approached. But though they have different names they are all outcrops from the Atlas and belong to the family. Along the coast is a strip of flat territory and beyond it a line of wall-like hills called the Sahel. Beyond these hills again is a tableland, a confused mass of big hills and dales,



Henry Leach

SUBTERRANEAN HOMES OF AN ANCIENT NORTH AFRICAN RACE

Half a day's journey south-west of Gabes are found the palaeolithic caves still inhabited by the scarce civilized Libyans of Matmata. This courtyard is at the bottom of a deep shaft and is reached by a sloping passage cut through the earth. Around are sleeping chambers and caves for live-stock, also cut out of the earth; a donkey is seen in the one on the right.

granite blown by the wind that way. Their prime effect is that of a wall affording protection against the Atlantic winds and rains.

The ancient Greek mariners who sailed this way were vastly surprised to see these towering heights, and more surprised again to observe them laden at their tops with heavy masses of cloud. Their poetic imagination leaped, they exclaimed that here was the giant Atlas veritably carrying the world on his shoulders, and the title stood. Much of North Africa is covered with

which extends over the whole area of the country, giving way on the southern side only as there is a fall to the level of the Sahara.

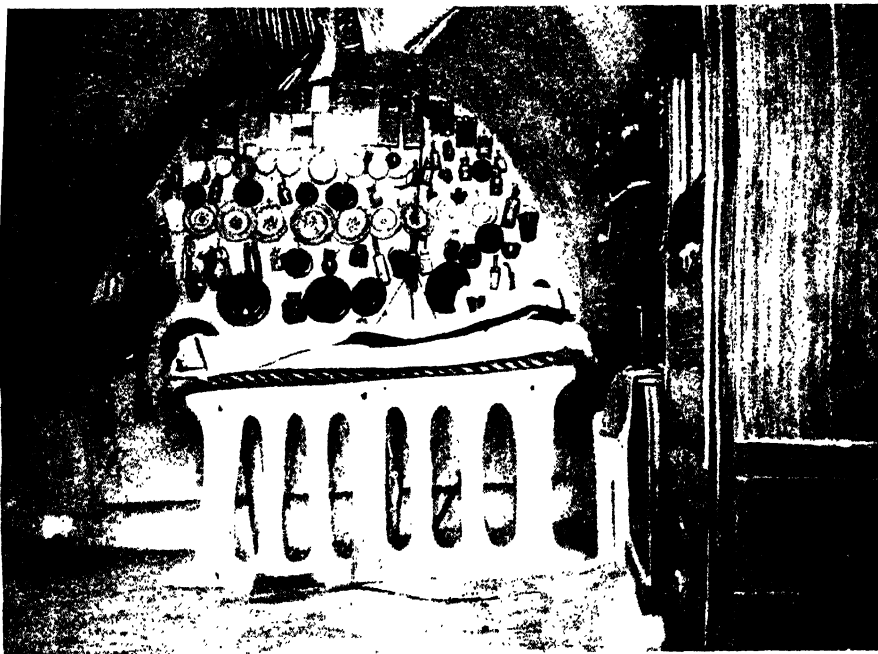
The effect is that of a highly pimpled and serrated tableland, into and through which invaders in the past have found it very difficult to penetrate. However, there are gaps in the ranges and between them are big-wide valleys in which for a distance from the northern limits cultivation is continually extending. Through past ages natives have conducted elementary agricultural



Henry Leach

MAHOMEDAN SHRINES THAT ATTRACT THE PILGRIM TO TUNISIA

The landscapes of Tunisia and other parts of North Africa are freely studded with these structures, known as marabouts. Each little sanctuary consists of a plain bare-walled and earth-floored chamber in which the remains of a marabout, or holy man, are buried. On the south coast from Cap Sidi from afar



Henry Leach

CHERISHED TREASURES OF A TROGLODYTE CHIEF

Broken bits of mirrors, empty sauce and pickle bottles and odds and ends of common European crockery that can be picked up are regarded as treasures from civilization and cherished for the adornment of the sleeping chambers of the Matmata people; they are generally arranged in this fashion. Notice the peculiar high trestle bed on which there is just room for the troglodyte to extend himself



IN THE COUNTRY OF THE TUNISIAN TROGLODYTES: AN INVISIBLE CITY OF FIVE THOUSAND INHABITANTS

Henry Leach

This rugged landscape, displaying little more to the eye than a few lonely palms and some coarse herbage, is on the edge of the eastern Sahara near to the Tripolitan frontier. Beneath its bare sandy surface are vast caves teeming with human life, for a population, estimated at 5,000 people houses in these subterranean passages. One or two marabouts and a mosque of modern construction may be seen above ground, but the people all belong to that very rare class known as troglodytes, or cave-dwellers, and are content to pass their days in earth-holes just as, it is claimed, their ancestors did many centuries before them.

Henry Leach

TUNISIA

MAIN "STREET" OF METAMEUR. A REMARKABLE TOWN IN THE SEMI-DESERT REGION OF SOUTHERN

These surface caves, built one above the other, their curious shape serving as a protection against thieves, are probably an evolution from the underground habitations of the troglodytes. Used as storehouses and dwellings, they are known as "riboras" by the Arabs, and are constructed mainly of earth and stones, with a small outside entrance to each cave—a low dark chamber which is complete in itself. Access may be had to the upper storeys only by projecting stones, here and there arranged to form steps. Metameur and its sister town McDonnin are both easily reached from Gabes



TERRAIN AND POOLS OF MIGHTY CARTHAGE, QUEEN OF THE SEAS -

Within a very short distance of modern Tunis—about 10 miles to the north-west—lies the site of ancient Carthage. The tranway line from Tunis to La Marsa, the city's holiday resort, passes near by, and in the mornings and evenings the cars are crowded with business people who live now on the same historic ground that the far adventuring armies of Hamilcar Barca and the crafty Phoenician merchants trod of old.



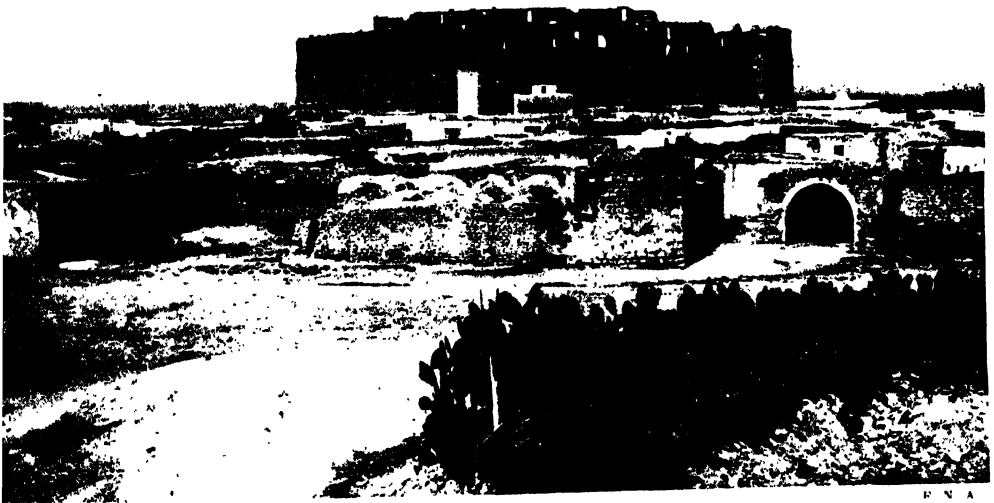
UNEARTHED BY THE SPADE: THE ROMAN THEATRE AT CARTHAGE

Carthage, the Phoenician city whose power was once so great that she became a redoubtable menace to Rome, is gradually being uncovered from beneath the mounds 10 miles from Tunis. Among other notable excavations, such as the Amphitheatre and the Odeum, the Roman Theatre has been uncovered. Partial restoration has taken place, and the entrance and exit passages may be clearly distinguished.



—SEAT OF A FAR-FLUNG MARITIME EMPIRE OF ANCIENT DAYS

On the extreme left is the circular pool with the island in its centre on which stood the Phoenician admiral's headquarters, while the other pool to its right was the commercial harbour once filled with the galleys of those ubiquitous traders who braved much peril in unknown seas and penetrated even as far north as the shores of Britain. Across the wide bay of Carthage towers the silvery mass of Jebel Bou Cornin



WHERE ROMAN COLONISTS AT EL DJEM SAW THE GLADIATORS FIGHT

Built about A.D. 240 of limestone carried 20 miles across the desert, the amphitheatre of El Djem (the Roman colony of Thysdrus) remains to-day one of the grandest sights in Tunisia. Its great bulk would verily seem to rise out of the barren wilderness of desert and it towers in massive splendour over the squalid Arab village beside it. El Djem is situated about 50 miles south-east of Kairwan

pursuits upon the strip of country next the sea, extending it as far as they could inland, and by skill and science the width of this cultivated and productive strip, called the Tell, is increasing.

But when this apparently confused mass of mountains is considered closely and analysed it will be perceived that not only are these hills subordinates of the majestic Atlas, but they exhibit their affinity in a remarkable manner by all the lines of the ranges pointing in the same way. All these chains, big and little, slant in the same direction

from the south-west upwards to the north-east and the lines are practically parallel with each other. From this monopoly of North Africa by the Atlas there is a conspicuous exception in the chain of mountains called the Rif, alongside the coast of Mediterranean Morocco. These seem to work round in a bend which ends abruptly at Tangier, to be resumed on the other side of the straits where the hemicycle is completed along the Andalusian coast of Spain. The lines of the Atlas have been not inaptly compared to a gridiron



Henry Perrin

RICH TREASURES OF WARM CLIMES IN A TUNIS BAZAAR

It is in the heart of old Tunis that is found the romance of Barbary ; this is the region of the bazaars, the Spice Market, the Slave Market, now the domain of dealers in antiques, and the Saddle Market. This view shows the Souk des Etoffes in which are displayed silks and woollen stuffs, carpets from Kairwan and rugs from Djerba



J. Dearden Holmes

NARROW, DARK PASSAGE OF THE CARPENTERS' BAZAAR

In Tunis are 50 mosques, and of these nine have schools or colleges attached to them. In the background here is seen the minaret of the Souk el Belat, or Carpenters' Bazaar, in which our photograph was taken. French occupation has made no change in the bazaars except that the streets are now paved.

There are the Tell Atlas, the Saharan Atlas and, among the outpost ranges, the Jebel Aures, pushing their last spurs near to the ruins of Timgad, the old Roman city, on the edge of the desert.

These Barbary States have no rivers like the Niger, the Congo or the Nile, and such as they have, the wadis or oueds are often dry. So it is a common thing to find them stopped up for irrigation purposes. Far inland the streams have developed into the shotts or shallow lakes of the plains.

In broad characterisation it might be said that this land is wetter and cooler in the west than in the east. In late May, for example, I can find it pleasant in Marrakesh (or Morocco City) though Tunis begins to be unbearable, save in its delicious evenings when one may lounge in pleasant avenues and listen to the Arabs calling out the

"Yasmine!" that they have for sale in little nosegays laid on trays. There is a wet period of variable length in the winter, longer and heavier in the west than the east, and sometimes it may be cold, while, though rarely, there may be a slight visitation of snow. For the most part, however, a winter temperature averaging something nearer 60° F. than 50° F. in the daytime may be expected. Towards the end of May 90° become regular and high temperatures are reached in the farther inland parts bordering on the desert, followed by cold nights.

Thus within a span of twenty-four hours one may constantly need both flannels and furs for comfort. The changes of temperature are more pronounced and frequent as one travels farther inland and comes under the influence of the Sahara; by the coast



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WHITE HOUSES OF TUNIS CLUSTERED THICK BESIDE THE BLUE WATERS OF THE LAKE

Tunis lies at the head of Lake Tunis, an almost enclosed projection of the gulf, and steamers must proceed from La Goulette, the small seaport on one of the outer tongues of land, by the famous El Bahira canal, a dredged channel five and a half miles long cut through the lake. This air photograph gives a general view of city and harbour : on the right the canal bank is seen connected to the mainland by a bridge carrying the tram lines which run from the city down the tree-bordered Avenue Jules Ferry to the harbour and thence along the canal bank to La Goulette, Carthage and La Marsa



GENERAL VIEW OF THE NATIVE TOWN OF TUNIS TAKEN FROM THE BEY'S RESIDENCE

The Dar el Bey, or Bey's residence, is one of the most historic buildings of the old town; parts of it date as far back as 1232, and it contains many rooms beautifully decorated in the Moorish style of the eighteenth century. From it a view of the whole native town spreads itself before us. On the right here is the minaret of the mesquite of Sidi-ben-Arous and in the foreground is the flat roof, punctured with triangular lights, of one of the "souks" (bazaars). Underneath are hundreds of native, buying and selling the wares of the country.



CENTRAL MARKET OF TUNIS IN THE FRENCH TOWN WHERE TRADING IS CARRIED ON IN THE EASTERN MANNER
 Henry Leach
 Modern Tunis is a city of many contrasts. Cheek by jowl with up-to-date Western buildings one will find in the French or modern town such places as this, the Arab Market, where the whole atmosphere is Eastern and the animated bargaining of the Orient holds unquestioned sway. These new markets, established primarily for native use, are a prominent feature of the French system of colonisation and protection. Here in numbers and enthusiasm come dusky-skinned countrymen with the produce of their gardens and orchards, and every day they are actively engaged in the selling of all kinds of fruits and vegetables



PANORAMA OF ALGIERS, THE FINE CITY WITH WHICH THE FRENCH REPLACED A STRONGHOLD OF PIRACY
 On coming in from the sea Algiers is seen to spread itself along a hilly coast-line in terrace above terrace of white-walled houses whose whiteness, upon a nearer approach, is seen to be pierced with a thousand windows with panes all winking in the sun. Behind, the hills rise like a wall from the top of which, near the cemetery, this photograph was taken. Directly below the observer is the suburb of Belcourt, and seaward the harbours stretch out from the water-front. To the left the houses slope up to the Kasbah, the old castle; and, at its back, the sky line of the hills can be descried all dark with woods

there is more steadiness. Again, while the influence from the south is naturally dry, that of the Mediterranean is humid. So in these regions we have many kinds of climates and much variation with that main general system of two seasons and no overwhelming extremes.

Below the surface in one part or another nearly every kind of mineral is found. In Algeria are important iron and zinc mines, while phosphates are found in the department of Constantine and elsewhere.

Land of Dates, Wine and Oil

The palm, the olive and above all the vine flourish and fair attention is given to agriculture and the production of cereals. Palms are everywhere, especially in the oases of the desert regions. In southern Tunisia there are 1,000,000 date-palms producing about 90,000,000 pounds of dates each year. Algeria, from which alone more than 100,000,000 gallons of wine have been exported in a single year, makes a greater feature of its vegetable and fruit products than its sister states do. In addition to exporting wheat, barley and oats in large quantities, she is first to supply the European markets with the new season's vegetables, exporting about 20,000 tons of potatoes alone in a season, chiefly "Dutch" and "Royal Kidney."

Countless Flocks of Barbary Sheep

Cotton and tobacco are grown in different parts and there is an inclination here and there to new productions and new industries, as in Algeria, for example, where about 3,000 people are engaged in the vegetable fibre industry. This fibre comes from the dwarf palm and is used for making mattresses, carpets, baskets and so forth. Ideas are held also that it may come into extensive use for papermaking. A weak feature of the agriculture is that the natives are slow in appreciating and employing modern implements.

But above all, sheep breeding is the thing on the pasture lands. Here in

their millions are the veritable "Barbary sheep." Algeria itself exports more than 1,000,000 sheep in a year and nearly 9,000 tons of wool. There are extensive fisheries along the coast. Otherwise, in industrial development Algeria displays little progress. Some porcelain and chinaware is made, there are a few tile factories, some tinning of foods and making of macaroni, but nothing of great consequence.

In the busy Algerian towns and cities, especially near the coast, we find up-to-date trade and commercial methods and systems in full force, just as in France. There are banks of state origin in each state, and all the leading French and some other banks have their agencies. Each of the three states has its own monetary system, and paper money for even the smallest amounts was the regular thing after the Great War until 1922 when metal alloys were largely substituted for it. In trade matters close rivalry exists between the three states. There are customs walls between them for one thing, and varying railway rates cause frequent argument.

Harbour Communications with Europe

The main harbour communications with France and Europe generally are Algiers, Casa Blanca and Tunis, with numerous secondaries. Here and elsewhere we see the white Europeans, the Arabs, the Berbers, mixed varieties in various shades of skin colour, Senegalese and negroes in a general conglomeration, with the Jews, who are an affinity to the Arabs throughout North Africa, running through them like a strong and powerful stream. Thus in Morocco they constitute more than 10 per cent. of the native urban population and in the native towns, round which the new French cities are built, they have their own recognized quarter; but otherwise they correspond closely to the secular life of the Arabs.

In the hinterland the French and other modern villages are neat and well-equipped. In Algeria one sees the village



BARBARY SEATES. *Sacrosanct to Mahomedans is the shrine of Mulai Idris II, at Fez, and in these precincts no infidel may set foot*



BARBARY STATES. In the salt lagoon region of southern Tunisia, Gafsa is an oasis that preserves its immemorial charm despite its incursion by commercial enterprise, so that the phosphates in which the district is rich



BARBARY STATES. *Tangier's holiest city in all Africa, Kairouan attracts a perpetual stream of pilgrims. The minarets and scintillating domes of these four hundred mosques breathe its sanctity from afar*



BARBARY STATES. *Luxuriant date palms glorify the native quarter of Biskra, the Algerian oasis famous as the Garden of Allah*



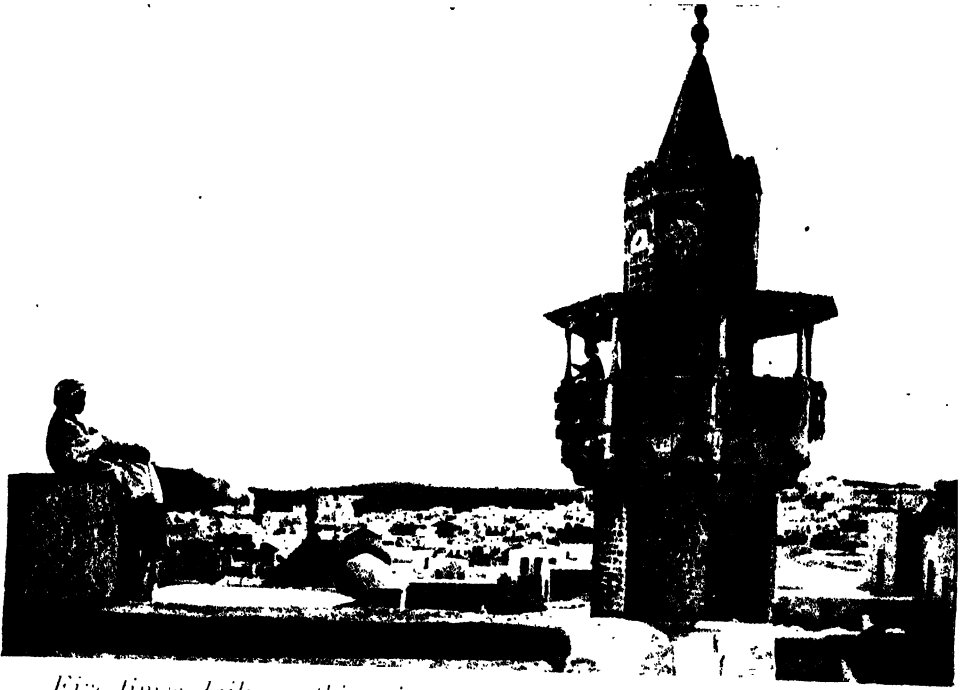
BARBARY STATES. *On the edge of the Shott el Djérid, Nefta is an entrancing oasis famed for its palm groves and its luscious dates*



BARBARY STATES. Bold red rocks of the Atlas mountain system close in at El Kantara to form the narrow gorge called the "Gorge of the Desert," abutting southwards abruptly on the wastes of the Sahara



BARBARY SLAVES. Although their freedom was free from its wells, the French have left Kairouan almost untouched, and life proceeds within its ancient gates much as when it was founded about the year 670



Five times daily on this minaret overlooking the roofs of Tunis the muezzin turns his face towards Mecca and calls the faithful to prayer



BARBARY STATES. Once the home at Constantine of the Algerian d'ys this garden gift gem of Moorish architecture is now a museum

square with its little church, the mairie, the school, the post-office, the barber's shop, all complete, and often a little handstand as well. Full educational facilities are provided by the French for their own people and much also for native children in most parts. Near by may be a native village where house construction has been conducted on more primitive lines, perhaps with stone, perhaps with brown or black earth, bricks or slabs. Then in the lonelier places sticks and straw come into the reckoning, and the tents of the Beduins. In southern Algeria and Tunisia one sees earth-made houses wherever natives live. The floors are bare soil, there may or may not be peep-holes for windows, and the hygienic conditions are what might be expected. This, after all, is Africa. It is the land of the mosque and the muezzin, of a vast population whose faith mainly is Islam and whose enlightenment, apart from matters of faith, is small, but where the French, with Italians and Spanish, are engaged in a grand endeavour to form a new civilization and help towards satisfying the increasing needs of Europe.

Transformation by French Genius

In Morocco, which from the point of view of European development is the youngest of the three Barbary States, we see most vividly to-day the process of transition. The resources are very great and the development under the resident-general, since the country first became a French protectorate, has been remarkable. Harbour works are being carried through on a grand scale. Casa Blanca has had equipment lavished upon it until now this great white modern city of the French with a population of over 100,000, and more than a third of it European, is marvellously fitted for all the conveniences and advantages of business. It looks less and less like Morocco, but the French scheme of architecture in these lands, which has been modified since the first beginnings, is a new European, Arabic, Moorish blend, almost

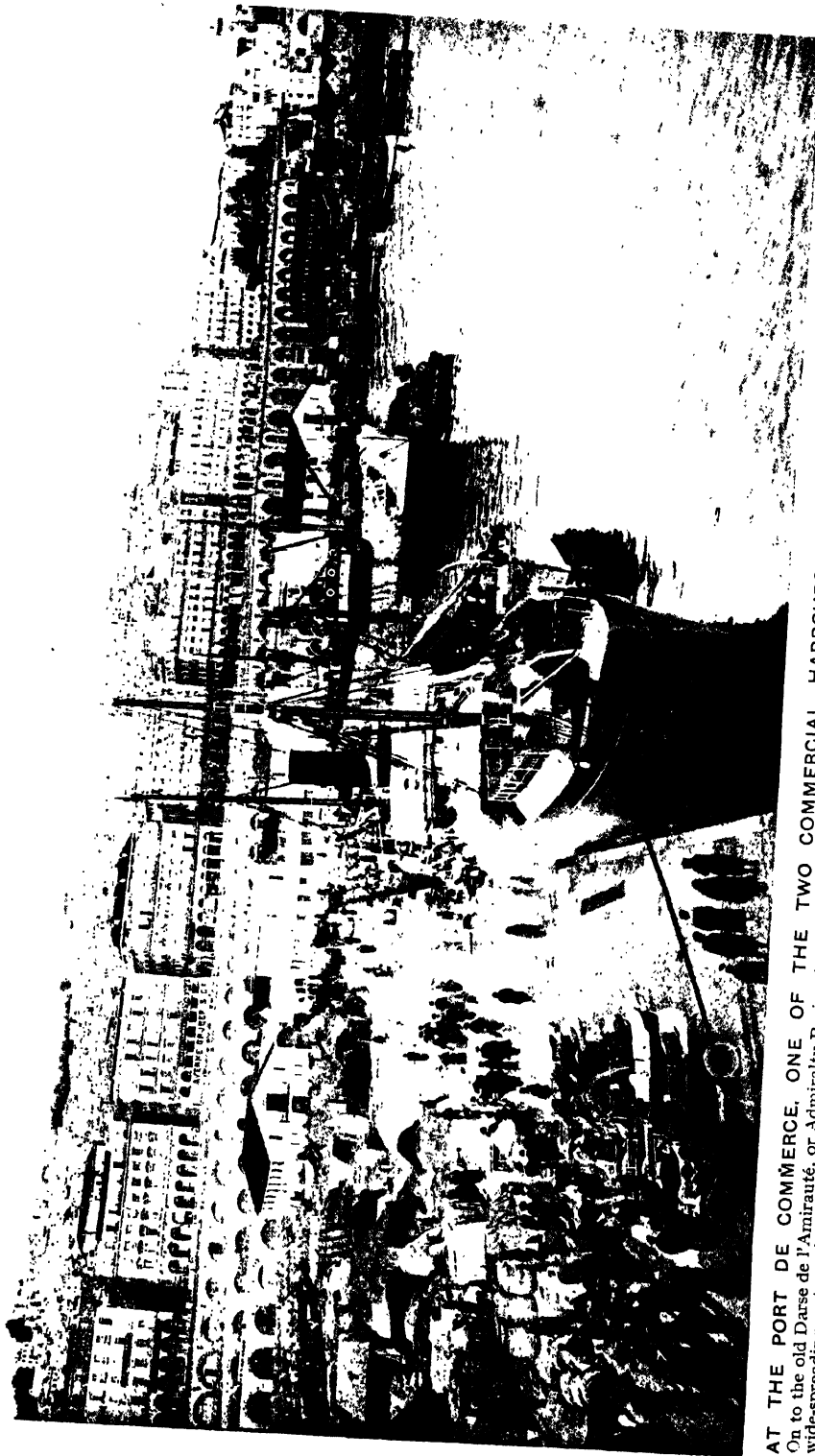
pure Moorish, minus the decorative work and strengthened in the manner of simple efficiency. It is being repeated in other parts of French North Africa. The effect is excellent, and the more so for the manner in which certain parts of the buildings, such as woodwork and the tiles of overhanging eaves, are picked out in a brilliant blue which in dazzling light and heat have a highly refreshing effect. One sees little railway stations in isolated parts done in this manner, and admires them.

The Modern Wonder of North Africa

It is now possible to travel by rail from Ouazzan in the north and almost on the borders of the Spanish zone to Kenitra, Rabat, Casa Blanca and thence away down to Marrakesh. From Casa Blanca there is an offshoot inland and eastward to Oued Zem, but, more important, there starts or ends here the grand main North African line. This permits of a journey from Casa Blanca, through Rabat, Mequinez (Meknes), Fez, Taza, Oujda into Algeria, with connexions for the desert leading on to Colomb Bechar and also for Oran. We can go on to Algiers itself, then to Constantine, with opportunities afforded by connexions to the ports in the north, and to Biskra with Touggourt in the desert in the south; or from Constantine to Tunis, with more connexions there for Bizerta and other places. From Tunis the line runs to the south through Susa and Sfax to Gabes, the oasis in the Gulf, and again on the fringe of the desert.

Romance Flies Before the Railway

This railway system is the modern wonder of North Africa. To Fez in a railway train! Our minds still hold an impression from the sighs and murmurs, the trials and adventures, the rains, the flowers and scents, the native welcomings, offerings and sacrifices that were accompaniments of the journey in the spring of 1889, with armed escort, that Pierre Loti made, and of which one of the most characteristically temperamental of his books, "*Au Maroc*," was



AT THE PORT DE COMMERCE, ONE OF THE TWO COMMERCIAL HARBOURS IN ALGIERS' MILE AND A HALF OF QUAYS. On to the old Darse de l'Amirauté, or Admiralty Basin, situated at the extreme north-west projection of the town, the French have built three great harbours and a wide-spreading system of quays. Next to and south of the Darse is the Port de Commerce, illustrated above, protected by a long breakwater called the Jettée du Nord. In the centre is the Port Militaire behind the Jettée du Sud, and next comes the newer Arrière Port sheltered by the Jettée de l'Agha. This dockside with its litter of merchandise bears witness to a thriving trade, and the numerous motor-cars are a reminder of Algeria's fine motor roads.



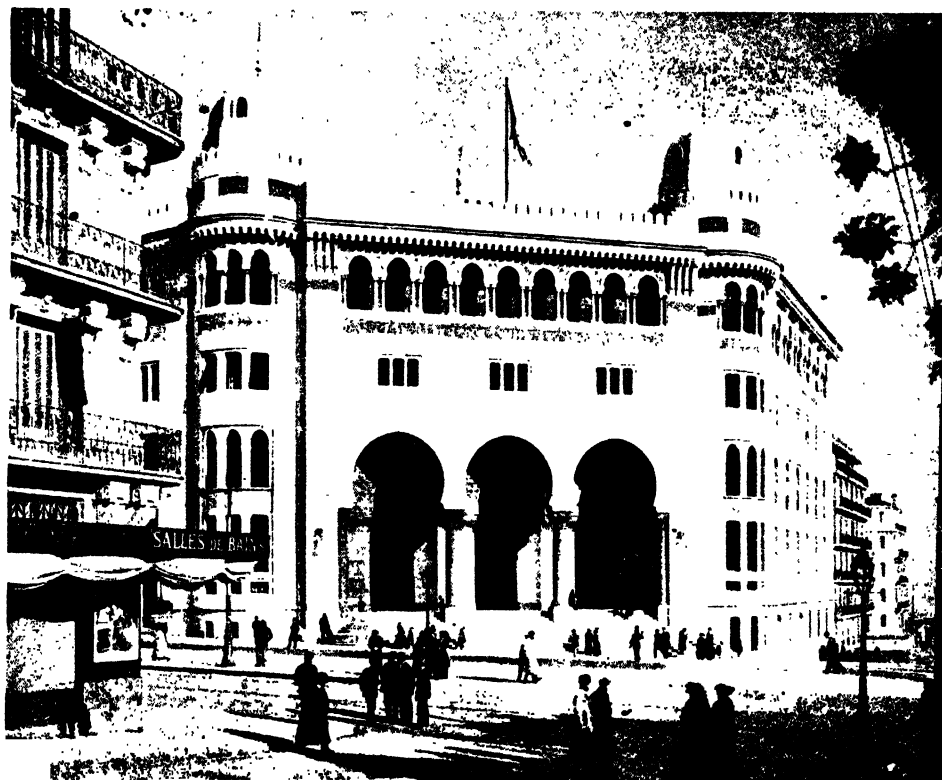
E. N. A.

In less than a mile the streets from the quays to the Kasbah climb 400 feet. In consequence there is no direct ascent for vehicles and the Rue de la Kasbah, the principal thoroughfare in the old town, has no fewer than 479 steps in its course. The tenement houses in this photograph are of a type that has replaced many of the old buildings of the once pirate city

the result; and this new way of reaching the famous city still seems somehow a little incongruous.

I did not see Morocco until twelve years later, but even then how very different it was from now! Fez was nearly unapproachable; it was an affair

These time-tabled auto services link up practically all important points that are not yet served with railways. Thus, Mogador, Mazagan, Safi and many other places of some importance and much interest are brought into the scheme of things. It follows that the

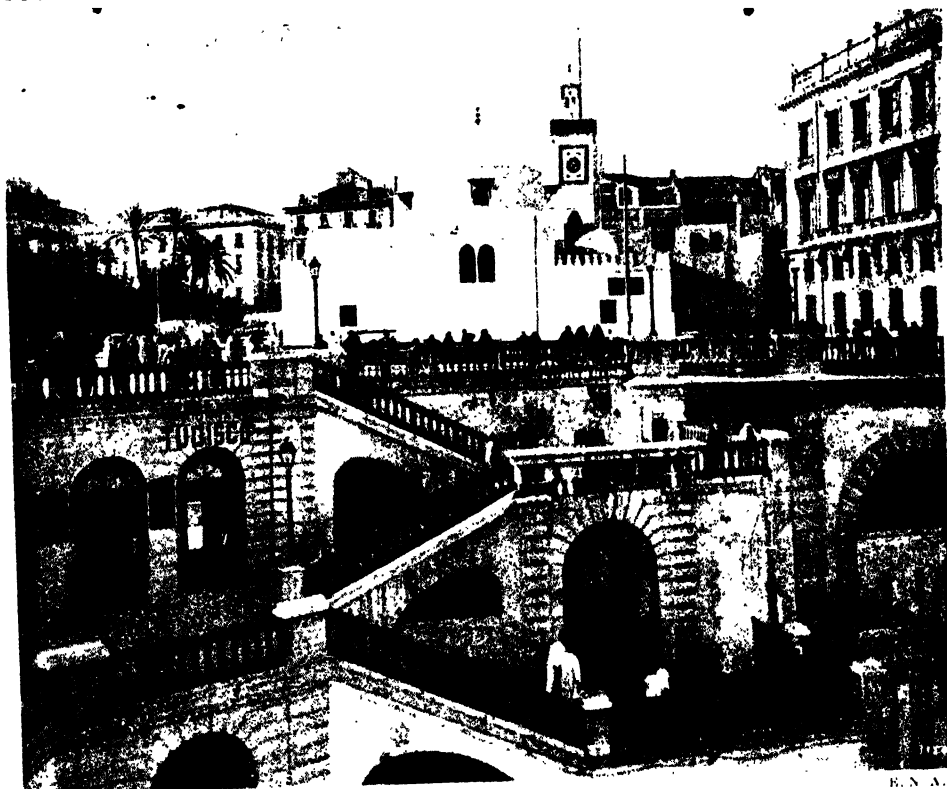


CONTRASTING STYLES OF ARCHITECTURE IN THE CITY OF ALGIERS

Built in 1910 the new post-office, in Neo-Mauresque style, is an attempt at architectural harmony with the rest of the native quarter of Algiers, on whose old boundary it stands. In contrast to it is the essentially European block of buildings with its ironwork balconies on the opposite corner. At this spot the Rue d'Isly becomes the Rue Michelet, which carries part of the city's tramway system.

of a bodyguard, a Sultanic invitation, risks and splendid adventures, just as Loti wrote of them, and mystery, wonder and that strange sense of the Moslem East on arrival—and now it is just a case of a railway ride and a good hotel at the end of it. Nevertheless, for the present, the trains being considered as mainly useful for merchandise transport, one may travel more quickly and in comfort by the regular automobile services by which one may leave Casa Blanca at 6.30 in the morning and be in Fez at 3 in the afternoon.

roads are good upon the recognized routes and the private motorist need have no apprehensions. In Algeria and some other parts they are as good as they are in France. There has been a marked omission from the North African railway system, and that is connexion between Tangier and the French system lower down, the difficulty having been that such a line when it is made must pass through the Spanish zone. In the meantime there is an automobile service between Tangier and Rabat. To every visitor to Morocco, Fez and



E. N. A.

SEAWARD FACE OF THE NEW MOSQUE AND THE STAIRS TO THE QUAYS
In front of this cupola of the New Mosque at Algiers runs the esplanade called the Boulevard de France. It runs parallel with the docks and about 65 feet above them, and is continued southward by the République and Carnot boulevards. At intervals steps lead down to the quays, passing the offices of steamship companies built, as seen here, in the arches that support the roadway.



E. N. A.

SUMMER PALACE OF THE GOVERNOR-GENERAL AT MUSTAPHA SUPERIEUR
Above Mustapha, the great southerly extension of Algiers, is Mustapha Supérieur, which is joined to the metropolis by the Rue Michelet. The governor-general of Algeria has his residence in the palace, here seen guarded by Sudanese sentries. It is called the Palais d'Été du Gouverneur. There are extensive grounds sloping down the hill to the Chemin de Gascogne.



LOVELY PATIO OF SARACENIC DESIGN

Donald McLeod.

Though the building style of this patio of an Algiers house is Saracenic, the influence has left its mark on the capitals of these fluted pilasters. Balusters, beautifully worked, and a frieze of panels of tiles perfect the whole.

Marrakesh are no doubt the main objectives, and properly so. They should be seen ere the reader grows old, for they will not much longer bear their present charm. Fez is the religious, political and economic centre of the Moroccan empire, and it is finely situated and intensely interesting. There are only a very few places in North Africa now where one feels the East unadulterated and almost untouched, not considering the lonely desert parts which are not in the Eastern, but another category. Fez is one of them, Marrakesh another, but with a distinct difference, for here we are on the fringe of the south; the black element is beginning to impinge and has marked the people, and the colours and forms are stronger, ruder, perhaps, but not less attractive.

In Algeria there is no such city as these; in Tunisia there is Kairwan (Kairouan), and perhaps these three may be placed alone in their own high class. The character of Casa Blanca has been indicated. Rabat is the French administrative centre and capital where are all the government offices and archives. Mequinez is not only interesting in itself, but from it two places of special attraction are within easy reach, one being the excavated ruin of the old Roman city of Volubilis and the other the holy city of Mulai Idris, built in a wild situation about a ravine and embracing within it the sanctuary and the zaouia, or religious community, of Mulai Idris, the most respected saint of Morocco and founder of the first Arab dynasty that reigned in the land.

It is reckoned that in all Morocco, including Tangier and the Spanish zone, there are about 6,000,000 people, in a very remarkable mixture. The urban population in French Morocco is now reckoned at a little over 500,000 and of these approximately four-fifths are Mussulmans, while 65,000 are Jewish natives and about the same number Europeans, of whom over 40,000 are French, 14,000 Spanish, 9,000 Italians and 1,000 British.

In the matter of climate and geographical and other peculiarities Morocco differs from other parts of North Africa. To a large extent it is boxed in between the Atlantic and the Atlas Mountains, which here attain their utmost heights and then slope down to the coast by Agadir, the most southerly point, while



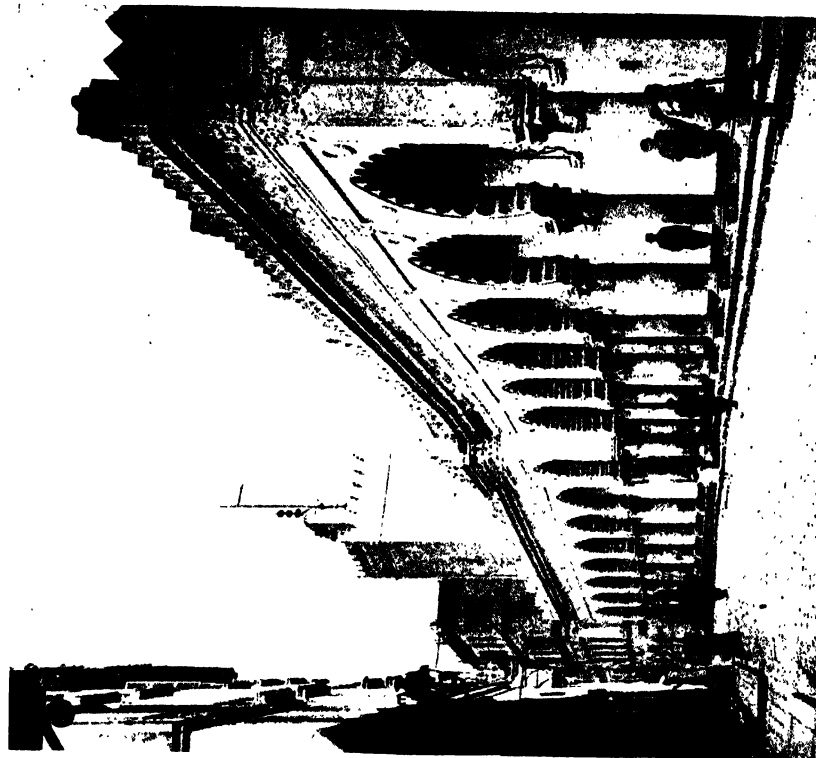
LOOKING DOWN THE RUE D'ISLY TOWARDS THE PLACE BUGEAUD E. N. A.

To the south of Algiers, beyond the harbour, is the large suburb of Mustapha, the two being connected by the long road called the Rue d'Isly which, towards Mustapha, becomes the Rue Michelet. Electric trams run all the way, and along the Rue d'Isly are situated most of the large business premises of Algiers. The side street to the right is the Rue Pichsier leading down towards the sea.



ONE OF ALGIERS' OLD STREETS LEADING UP TO THE KASBAH E. N. A.

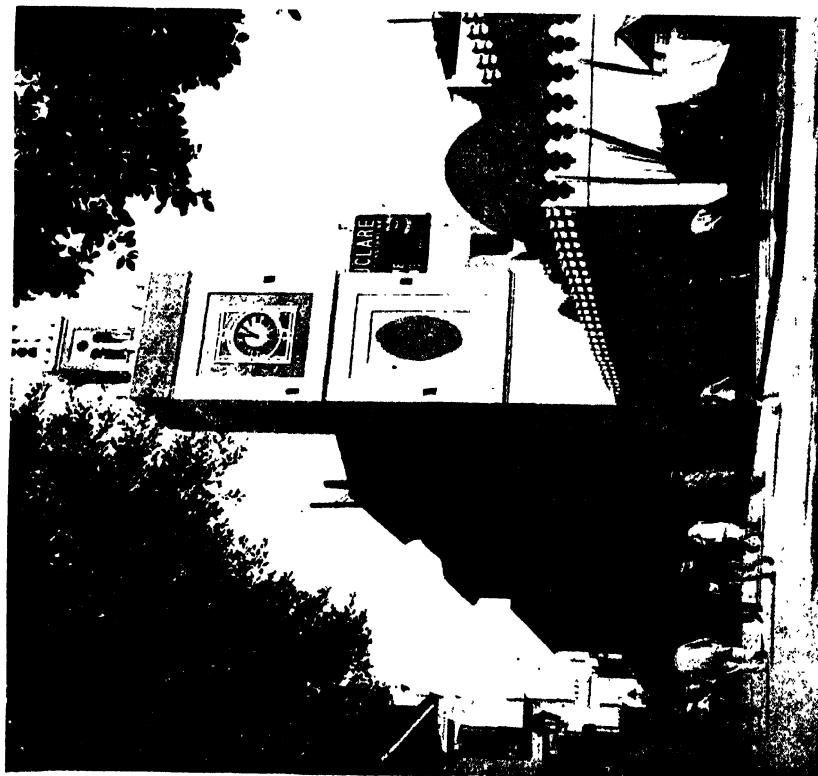
For purposes of fortification the old town was built about a hill with the Kasbah or castle commanding all. This stronghold has given its name to what is now the poor quarter, one of whose steep and narrow thoroughfares is seen above. French, Arab and Italian live side by side, and a glance will show the mixture of types. The fine houses that make Algiers so attractive are almost all of French building.



Donald McLeish

GREAT MOSQUE IN THE RUE DE LA MARINE

Largest and oldest in Algiers the Djama el Kebir, or Great Mosque, has this arcade of marble pillars beneath its white minaret. Inside is a court with a Turkish fountain and the shrine itself with its eleven aisles. Founded in 1018 for followers of the Malekite sect, it has since undergone many alterations



Donald McLeish

MINARET OF THE DJAMA EL DJEDID, OR NEW MOSQUE

This tower recurs again and again to the visitor's view as it stands up from the surrounding roofs behind the Port de Commerce. But the best aspect of all is from this shady corner of the Place du Gouvernement where the principal streets meet. The tiles on its walls and about the clock-face stand out in vivid colours



Donald McLeish

MOSQUE OF THE MARABOUT SIDI ABDERRAHMAN. BUILT OVER HIS TOMB

At the end of the Rue Marengo, which runs from the Rue de la Lyre, a continuation of the Rue d'Isl, is the pleasant Jardin Marengo, a public park made on the site of an old Mahomedan cemetery. At the top of the hill, which the garden clothes with bamboos and palms, is this mosque, built in 1676. Beautiful tile-work adorns its walls and within over the tomb of the saint, a lamp is ever burning.

the Rif chain makes a mountain wall in the north. This enclosure between mountain and sea is largely a level, fertile plain drained by a regular series of rivers all the way down, chief of them being the Sebou. The level of the country, which in the shoreward regions is from 150 to 200 feet above the sea, rises to as much as 800 feet in the interior. In this area are four general classes of land and soil: the first is that of the mountain masses which is for the most part bare and useless; the second what is known as the "tirs," or black soil, covering a large middle area between the rivers Regreg and Tensift, which produces cereals in enormous quantities especially in the wet seasons; the third the "hāmri" or red lands; the fourth the "rmel" or sandy territory, the last two in moist seasons being of fair productive capacity.

The climate has characteristics inevitable from the large part of the country exposed to the Atlantic. From November until April is the rainy season when, with the winds blowing mostly from the west and south-west, it may rain at any time and often does so in large volume, the maximum attained being in the north and the minimum in the south. Next to Tangier, Fez is the rainiest place in Morocco. But the rains are intermittent and in general the climate is pleasant and agreeable, for though from May to October is considered the hot period it is not so hot as in other parts of North Africa. Near the sea especially it is often very pleasant, the temperature all the year round, in fact, being agreeable, though in winter the nights are often cold. At Fez the average temperature for the year is about 66° F. with a minimum of 33° F. in February



OVER THE ROOFS OF BISKRA : THE PLACE DUFOURG AND THE MUD HOVELS OF THE VILLAGE NEGRE
After a railway journey of 140 miles into the south-west from Constantine the traveller reaches the oasis town of Biskra. It is a health resort that owes its reputation to hot sulphur springs, and it lies in a declivity of the Aures hills, at a height of about 300 feet above sea-level. Of these two photographs, the upper shows the town with its houses of French design, and pleasant boulevards along which are casinos, clubs and hotels. Biskra is a garrison town and has manufactures of carpets and burnouses. The lower photograph gives a view of the unpleasing Village Nègre

Compagnie Générale Transatlantique

and a maximum of 110° F. in August. Marrakesh is sometimes a little colder than this in January, and is warmer in the late months of summer.

By the coast and in other parts that receive large rainfalls evergreen oaks and cork trees grow in forests, and elsewhere are other woods, notably those of the cedar-trees in the Atlas Mountains and south of Mequinez and

on the dry steppes of the interior, where alfa or esparto grass are found.

The soil and conditions are favourable to most kinds of agriculture, and it is being vigorously practised with cereals for the basis. Cumin, chick peas, beans, lentils, fenugreek, henna and a variety of other plants are grown. The rose, orange and jasmine flowers are used by the natives in the preparation of



MAIN ARTERY OF TIMGAD AMID ITS SKELETON OF BROKEN BUILDINGS

With the wheel-worn flagstones still in place the Decumanus Maximus, the main street from east to west, is still complete enough for the mind to gauge the splendour of the Roman city in the desert. At the far end is the great west gate called Trajan's Arch, after the powerful emperor who built it and all Timgad to house his war-worn legionaries.

roz. Also pines and junipers grow and the citrus from which sandarac gum is extracted. By the banks of streams the oleander, the tamarisk, the clematis and the willow thrive; on the higher grounds and among the hills are many specimens of vegetation including avender, thyme, mint, sage and some pretty chrysanthemums. On the lowlands, where there is little rain and trees do not flourish, are many varieties of wild flowers, asphodels prominent among them. A walk in the country in Morocco at springtime is a delightful experience to nature lovers. There is good pasture

perfumes. Of course the olive is general and vineyards are extensive, the vine having been grown of old in Morocco, while European vineyards were started here in 1921. Oranges, lemons, palms, figs grow in abundance. Cotton growing began in 1911. More agricultural production, however, is needed, as are better methods. For encouragement in this direction land is being sold at low prices to Europeans on condition that they settle thereon and farm it according to European methods.

Enormous quantities of eggs are exported. Almonds, barley, beans,



· STREAM, ROAD AND RAILWAY THROUGH THE GORGE OF EL KANTARA

This cleft in the rock wall of the Atlas Mountains has since Roman times carried the road from Constantine and the coast to Biskra, some 20 miles due south. The name El Kantara, meaning "the bridge," refers to the Roman structure built across the El Hai river in the days when the Third Legion garrisoned Mauritania. In 1862 the French restored it with the result seen above. The railway is carried through the gorge by the tunnel seen on the left



APE-INFESTED GORGE OF THE CHIFFA NEAR BLIDA

Blida is 32 miles south-west of Algiers by railway, and is built in a beautiful oasis and embowered among orchards and gardens under the shadow of the Little Atlas Mountains. A few miles away is this beauty spot, the gorge of the river Chiffa with its Hotel Du Rousseau des Singes (or Monkey River Inn), so called from the number of Barbary apes which infest the neighbourhood.

linseed and wool are the other chief exports. The country is believed to be extremely rich in minerals and one has heard much of the discovery of phosphates. Copper, iron, lead, gold, silver, antimony, sulphur, manganese and petroleum are said to be indicated. The petroleum has been found in the R'arb district on the banks of

the Sebon and the Vergha. It is believed there is coal in the south-east. But little so far has been done in mining beyond the business of prospecting. In the Spanish zone are iron mines that have been extensively worked by an international company, and in a recent year over 80,000 tons of iron ore were sent thence to Great Britain



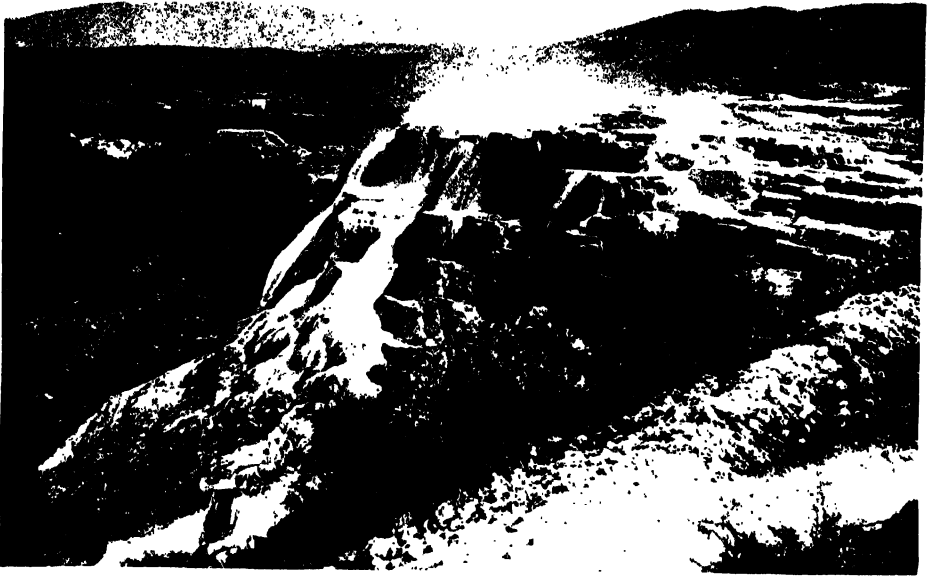
CONSTANTINE'S CRAGS OF WEATHER-SCARRED LIMESTONE ABOVE THE RIVER

Defended, except on the west, by the great limestone ravine of the river Rummel, other views of which appear in pages 570-581, Constantine stands on a plateau about 40 miles south-west from the Algerian port of Philippeville. The road carved in the precipice is known as the Route de la Corniche, and is one of a system connecting the coast with the interior to which Constantine is the key.



IN THE PLACE DE NEMOURS AT CONSTANTINE, THIRD CITY OF ALGERIA

North-east and south-east of Constantine runs the gorge of the river Rummel, and the precipitous limestone cliffs seen in the top photograph provide scenery both grand and desolate. But on the south-west the approach is less steep, and the Place de Nemours, where the old hotels are to be found, opens on to two gardens, whose spaces are doubly pleasing after the narrow, dusty ways of the town.



STEAMING CASCADE THAT POURS DOWN FROM BOILING SPRINGS

Known to the Romans these hot springs at Hammam-Meskoutine are much visited for their medicinal qualities. The waters contain sulphate of lime and salt, and of the neighbouring scenery a notable feature is this cliff of rock terraces, 40 feet high. The terraces are white with deposits of lime, and near by are some limestone cones said to be a wedding party petrified by Allah for their misdeeds.



PALM GARDENS THAT BLOW BY THE STILL WATERS OF M'CHOUNECH

One of the most delightful excursions to be made from Biskra is the journey of 19 miles to the northeast along the road past the cedar slopes and torrent gorges of the Aures Mountains to M'chounech. Lovely palm oases are found beneath the 6,000-foot pile of the Ahmar-Khaddou. Over the stream where these Berber boys are bathing is the wall of some village garden, fragrant amid the desert.



WHILE THE CARAVAN HALTS: AN OASIS IDYLL

Where, in the Algerian deserts, the water under the earth percolates to the surface, there an oasis springs up. Through these shady fronds of palms, the traveller can see the walls of Doucen, an oasis town, 40 miles south of Biskra.

alone. Morocco is hardly yet a place for industries; production from the earth and other forms of exploitation are the thing. It is estimated that there are some 300 industrial establishments with over 5,000 men engaged in them.

Of the Spanish zone of Morocco little notice is taken by the outside world save when Spain falls into serious difficulties there. The result of a little knowledge, with intermittent excitements, is that Spain is given no credit for good work she has really done. Her Morocco zone is a thin slice of the western end of North Africa, and after making a front to the Atlantic, on which her chief town is Larache with more than 12,000 inhabitants and about a third of them Spanish, it curls round the corner where Tangier is

and runs along the Mediterranean coast for a little more than 200 miles, after which comes Algeria. The depth of the zone from the coast varies, but on an average it is only about 40 or 50 miles. Thus the French surround it completely by land. The Spanish have struggled to make a fair display agriculturally and otherwise, but in comparison with the French they have not done well, which may not be wholly their fault.

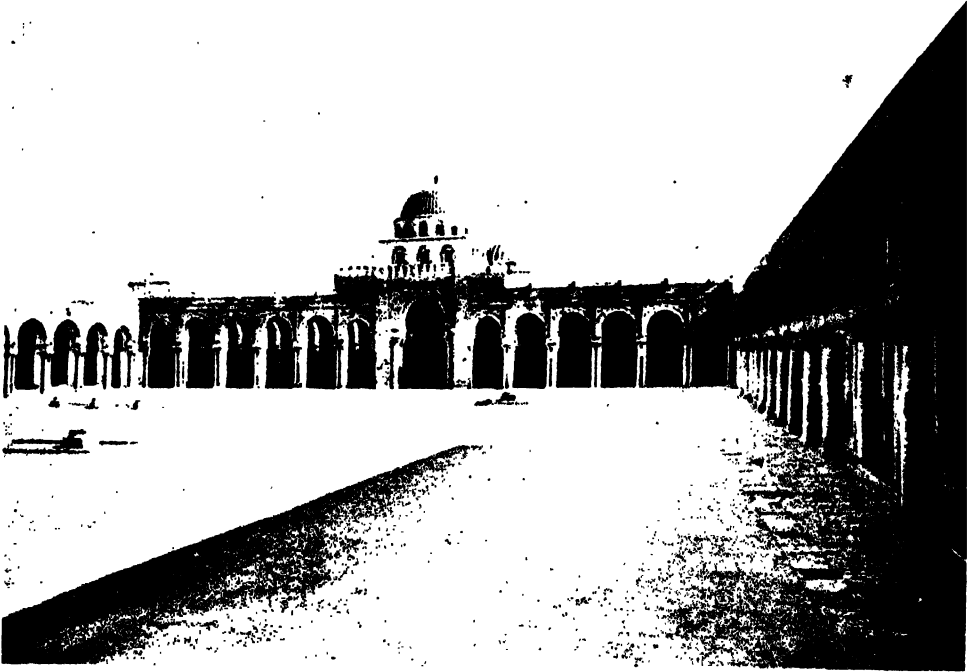
The railway from Ceuta to Tetuan, a little over 20 miles, is in some respects better made and appointed than any railway in Spain. The stations at Ceuta and Tetuan are built in Moorish style, white with coloured facings, and the trains are corridors of the international kind.

Another strip of railway from Tetuan connects with the coast at the mouth of the Rio Martin, and a scheme for a railway down to Sheshuan (now being called Xauen by the Spaniards after the Moorish manner) is now under consideration.

Tetuan, the Spanish Morocco capital, is enormously interesting and romantically situated between high and wild-looking mountains. The Spanish town, with its large Plaza de España, is built in the usual way outside the Moorish town, which is completely self-contained and such a hive of Arab industry as I have seen nowhere else in North Africa. The streets are a medley, but each has its special native workers and traders and one may follow within a few yards the history of a piece of goat skin from the time of its parting from the animal until it is sold to the customer in the



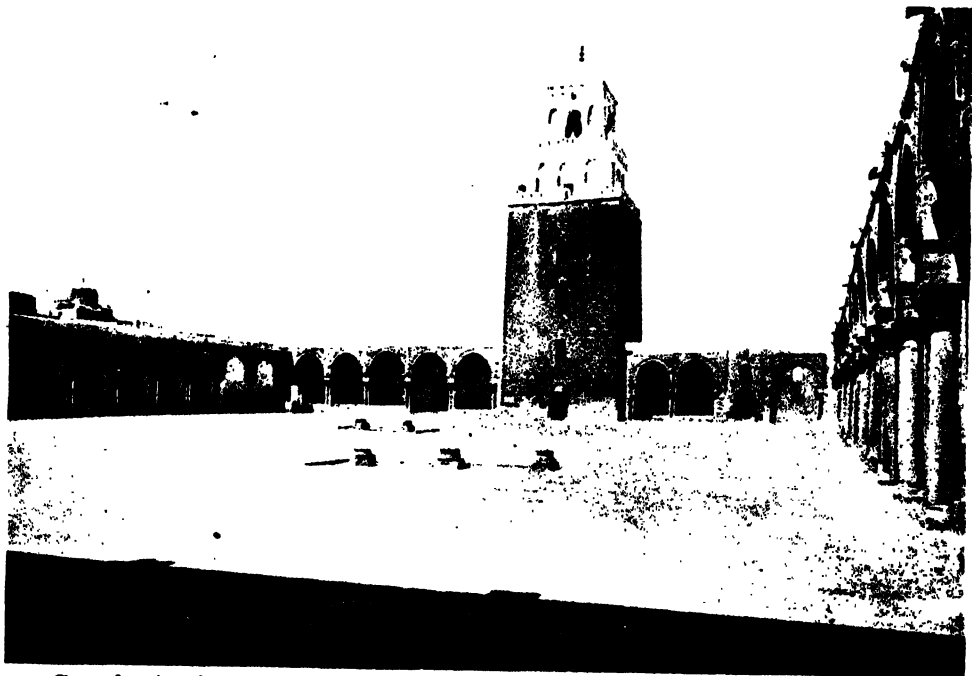
BARBARY STATES. *Paths strewn with shadows from over-arching palms lead into Biskra, queen of the oases of southern Algeria*



Chief glory of Kairwan is the Great Mosque of Okba. The rectangular, domed maksura is a marvel of porphyry and marble



BARBARY STATES. *Rising amid the bazaars, the Mosque of the Olive Tree is the chief mosque of Tunis and headquarters of its university*



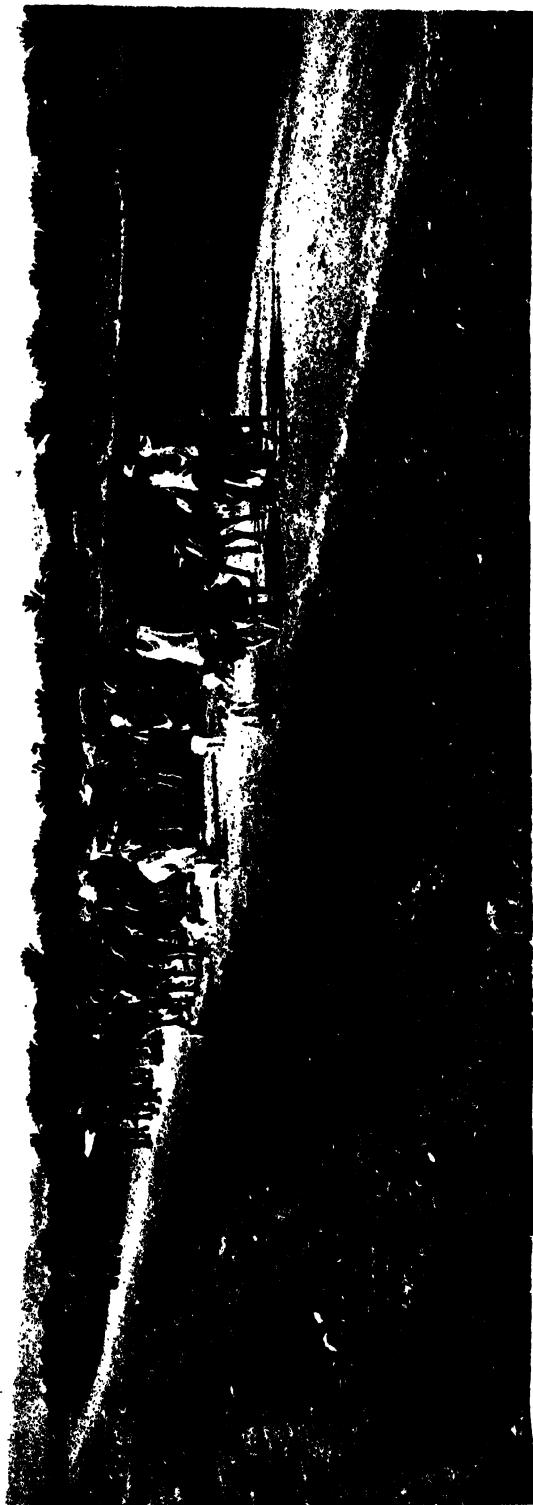
Stately in its massiveness the minaret of Kairwan's Great Mosque rises from a cloistered court covering 38,000 square feet



BARBARY STATES. *In the hope of baksheesh, children of the desert write on the sands words of welcome to tourists from Tunis*

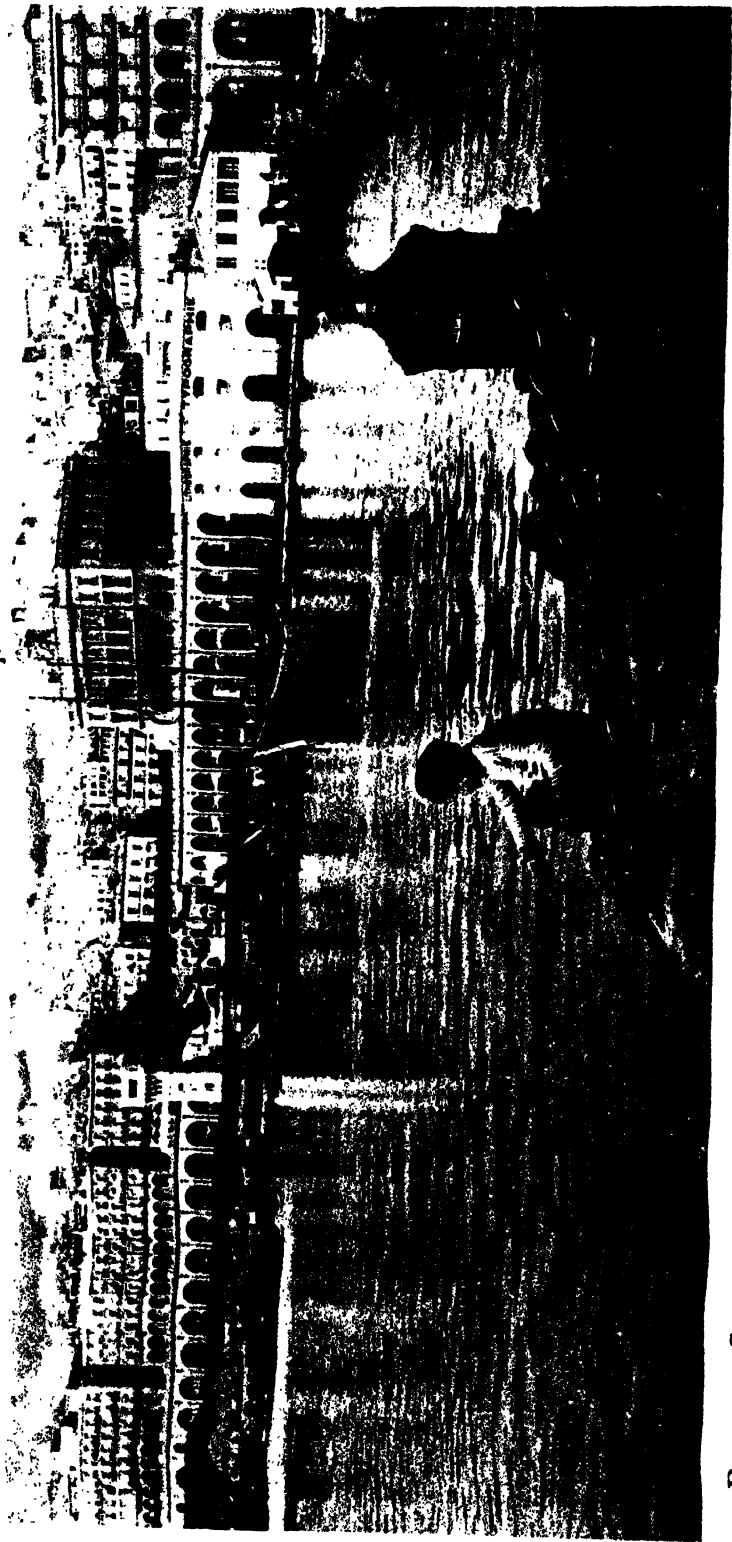


BARBARY STATES. *El Kantara opens through the Algerian Atlas immediately on to the Sahara, and when the camel caravans come in from far and lonely places they seem to be laden with the very essence of romance*



E. N. A.

BARBARY STATES. Ingeniously irrigated from a single stream, the oasis of Biskra stretches for several miles before it gradually merges into the northern Sahara whose exhilarating air has made it a health resort



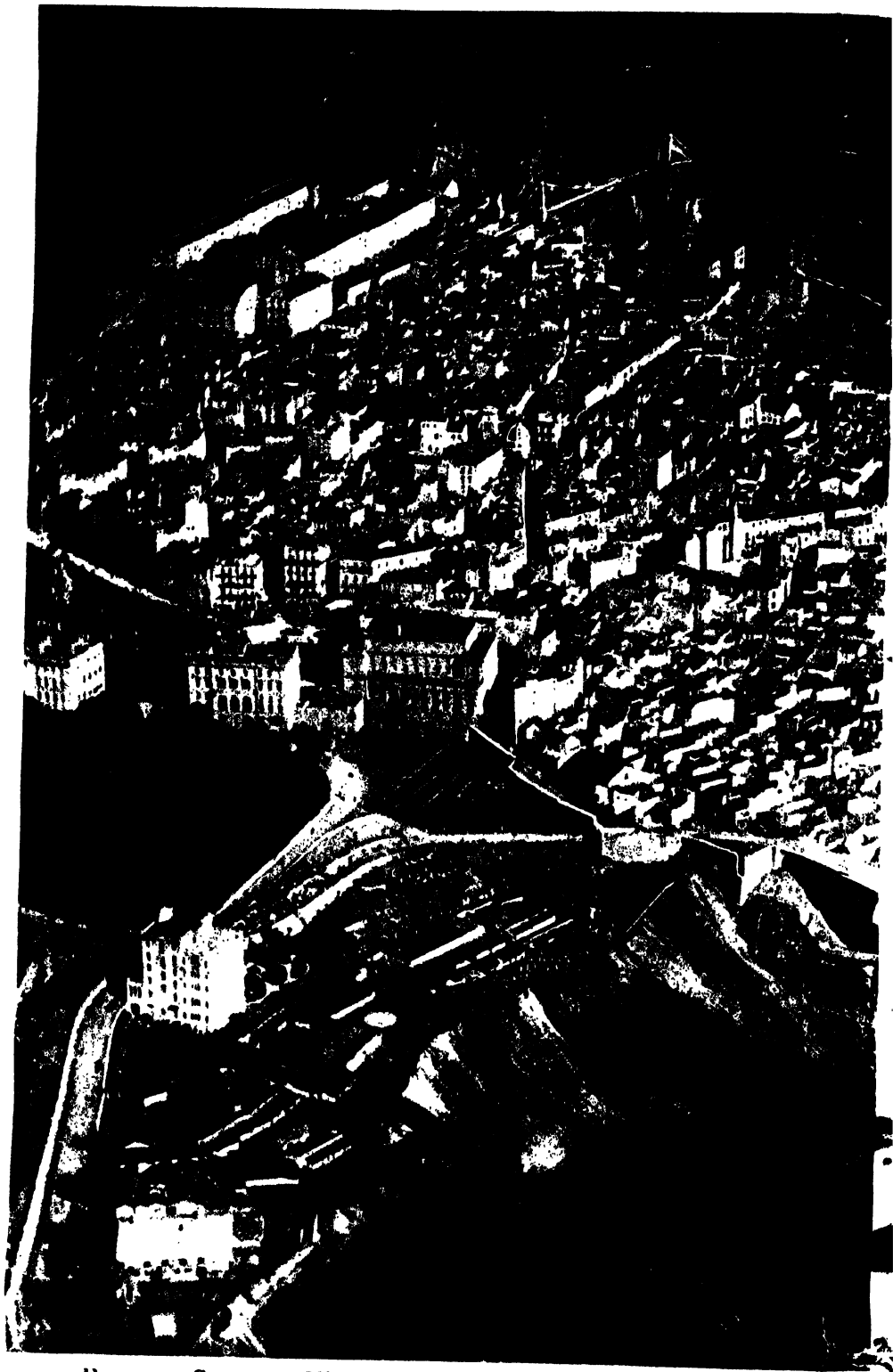
BARBARY STATES. Viewed from the sea Algiers is very beautiful. Upon the arches lining the docks runs the Boulevard de France, and behind it the town rises in steps to the height topped by the old Kasbah

Donald McIntosh



Donald McLeish

BARBARY STATES. *Here at its lower end, crossed by the Suspension Bridge, the wondrous Rummel Gorge of Constantine is 590 feet deep*



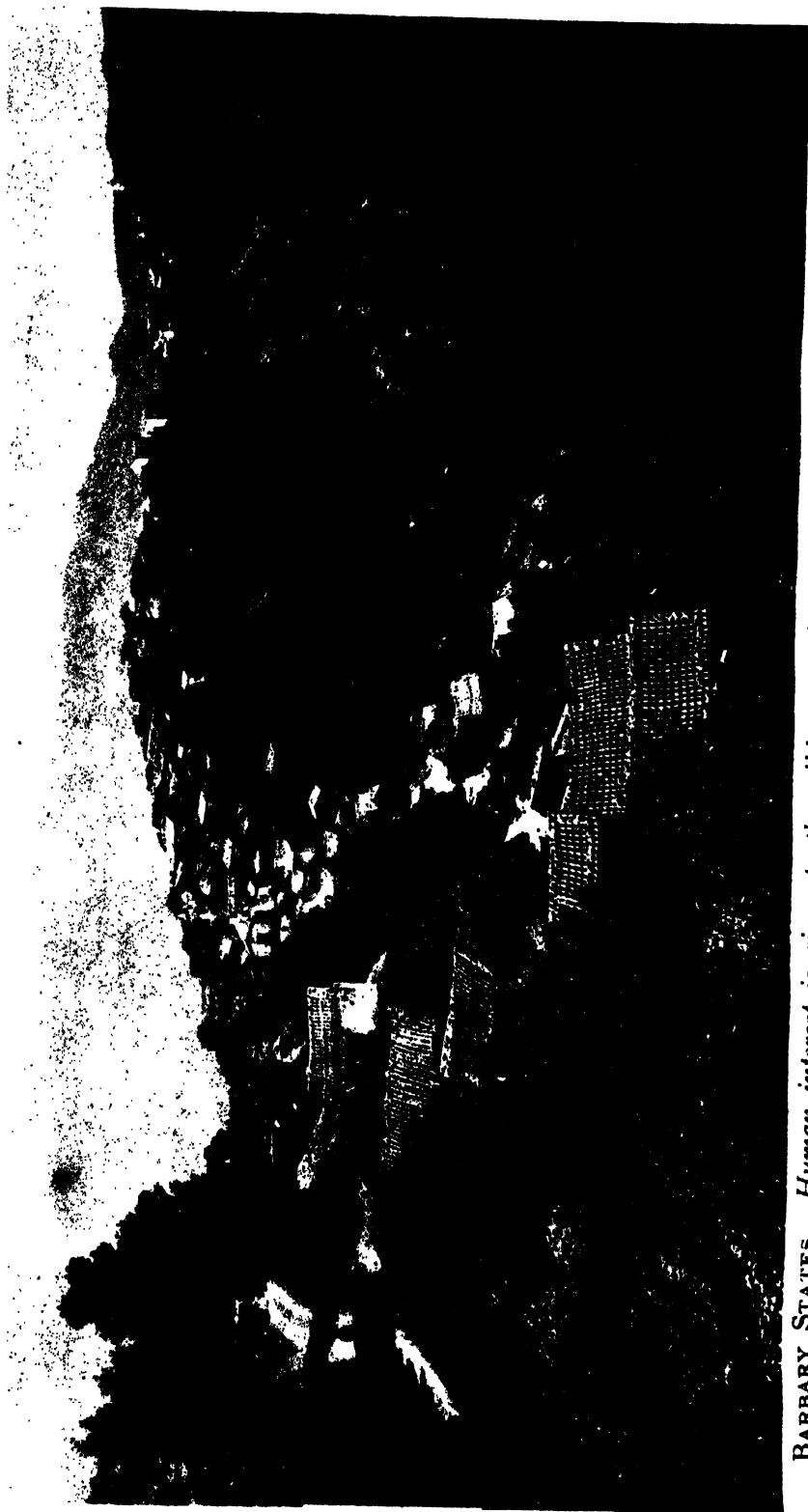
BARBARY STATES. *Viewed as here from an aeroplane, Constantine appears as an almost impregnable natural fortress.*



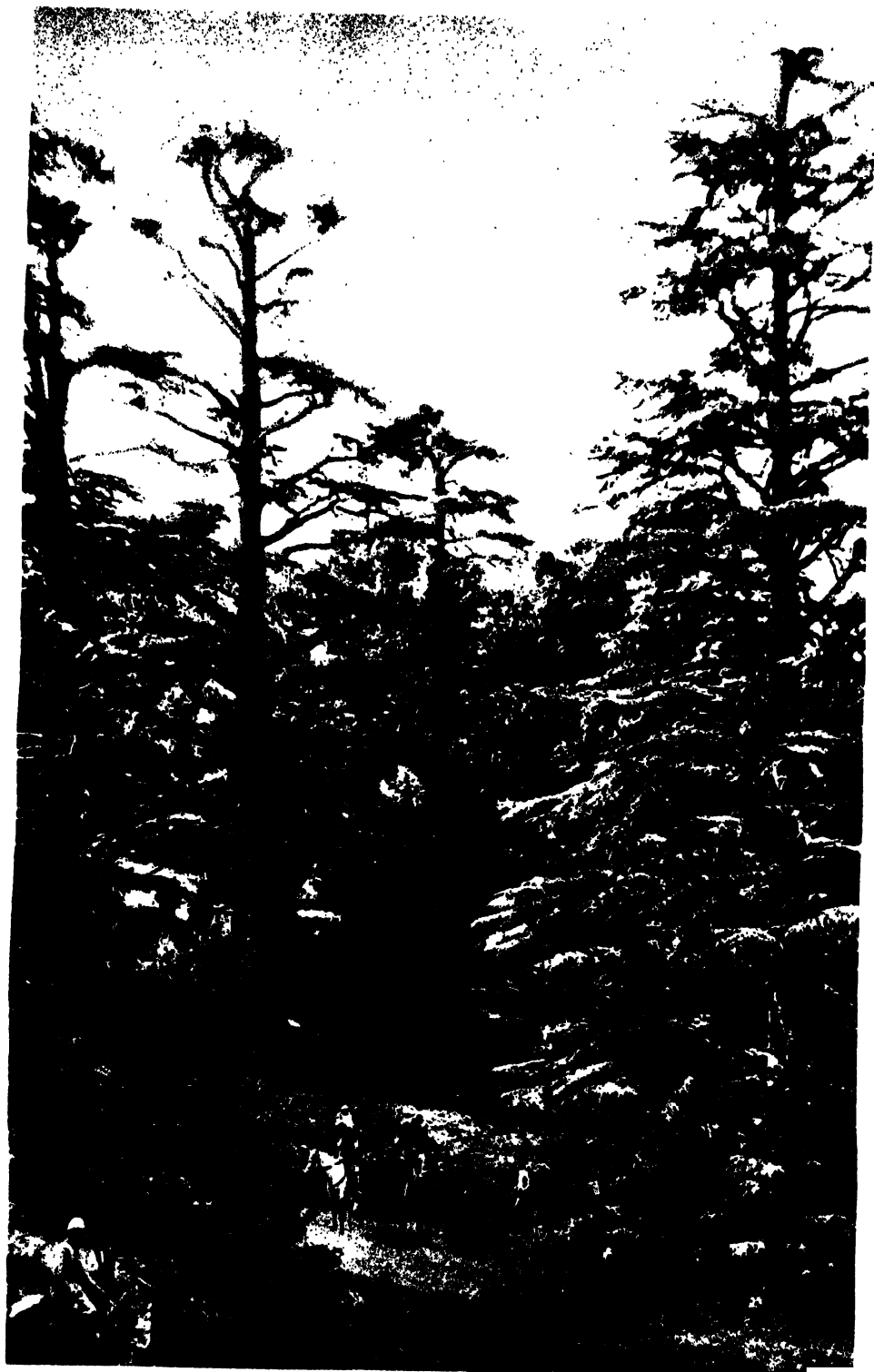
Deepening as it winds to the northward plain, the Rummel forms a defensive fosse spanned at three points by lofty bridges



BARBARY STATES. Built compactly on steps upon an isolated peak in the Aures highlands of Algeria, Menaa is a chief town of the Shewias. These are an agricultural and pastoral people of Berber stock



BARBARY STATES. *Human interest is given to the wild mountain scenery of the Algerian Atlas by villages of the hill-dwelling Kabyles. The hill slopes are well cultivated and often enriched with fine orchards*



BARBARY STATES. *Forests cover both slopes of the Middle Atlas. Especially fine are the Atlas cedars, hardwood trees with silvery leaves*



BARBARY STATES. *Sadly dinted and riven are the stout old red walls, thirty feet high and reinforced by towers, that encompass Marrakesh*



E. N. A.

BARBARY STATES. *The water supply of Fez is abundant. This, the Carpenters' Fountain, is one of many in the town*



E. N. A.

BARBARY STATES. *Storks, held sacred throughout Morocco, are conspicuous figures on the roofs and towers in and about Rabat*



BARBARY STATES. Backed by the Rif mountains, roughly alined to the coast, northern Morocco is a little-known land. Some agriculture is carried on by antiquated methods, but the Berbers are an untamed people.

John Brehm

form of a large writing-case or wallet, finely embossed by hand, for something less than thirty pesetas. This Arab city seems to be wonderfully complete in itself and, like so much else in North Africa, it plunges the wayfarer with philosophical susceptibilities into another reverie. They work desperately hard in Tetuan and never have strikes. And they seem happy.

Melilla is a very bright and well-planned town, Spanish made, with good streets, public parks, institutions, theatres, hotels and all the rest, and a population of about 40,000. It is a business place, the headquarters of the Spanish command at this end of the zone, and it is overlooked by a mountain, the Gurugu, with a sinister history, having been generally honey-combed with rebels when trouble was about. All the foreigner's non-commercial interest is at the other end, chiefly at Tetuan, which can be reached either from Tangier by a daily

automobile carrying the mails—about a six hours' journey, but I have done it in fourteen in bad weather when floods had broken the bridges over this very rough track—or by rail from Ceuta, which can be reached by regular boat from Algeciras near Gibraltar in three or four hours.

Ceuta, which is spoken of as a political alternative to Gibraltar, and again as a possible rival to Tangier, has extensive harbour works. The place has been much modernised and one walks up into the town from the harbour along a road with flower beds at the side faintly suggesting a popular seaside resort on the English pattern.

The case of Tangier, which should be the busiest and most important place in North Africa, is pathetic, and a sad commentary on the combined wisdom of European "powers" in a constant state of jealousy towards each other. For this place, tossed and turned about since it was given as a

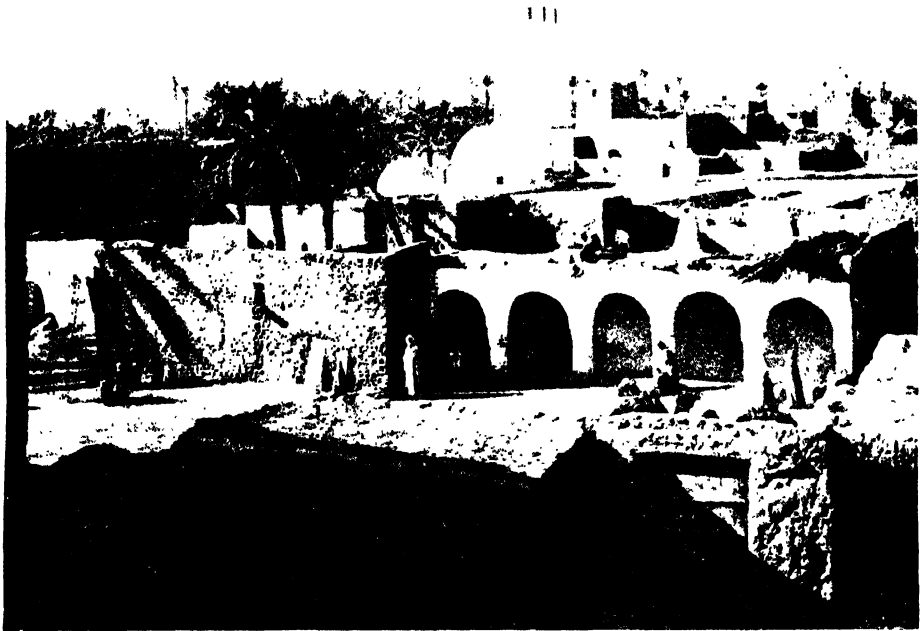


GOODS READY FOR SHIPMENT AT THE DOCKSIDE OF ORAN

Oran, with its fine harbour and docks and its well-built streets, is reckoned to-day as the second city of Algeria, although far less frequently visited than Algiers; grain, wine, minerals and a certain quantity of live-stock are exported. Railway communication exists with Algiers 260 miles to the east, with Tlemcen to the south-west and southward with the desert and the Oasis of Figig

wedding present from Portugal to England in 1662, is now in a pitifully broken down and neglected condition, without any proper harbour, and the only place of consequence in North Africa without a railway. Its only communications are by sea and road, and the roads are bad enough.

governments has been pressing its controlling claims, upon which a compromise of an international kind has been made. These considerations, however, do not alter the fact that from the traveller's point of view the situation of Tangier is superb and its climate delightful, while its native interest is



RELIGIOUS CENTRE OF THE ZAB OR ALGERIAN OASES

Sidi Okba is a little village of sun-dried bricks in an oasis hard by Biskra, but a place of great activity nevertheless. From the north-west corner of the mosque-shown above, a square, flat-roofed structure on clay columns with an unimposing minaret, is the tomb of Sidi Okba, the Arab general who conquered North Africa for Islam in the seventh century.

Nevertheless those in search of knowledge about native Morocco, and perhaps a thin taste of adventure, are recommended to the inland daily journey by car to Tetuan. It lies through fascinating country, wild in places, then flat and flower-laden, with sleepy pools and storks by them. Native huts and villages are passed on the way; the Arab may be seen at his rawest. About the middle of the journey is the famous Fondak of Ain Yedida, where Raisuli for long held out against the Spaniards.

Tangier now has large French and Spanish populations, and each of the

enormous. Its great zoco (souk), or market place, with snake-charmers, story-tellers, native acrobats and everything appropriate to Arab entertainment, is wonderful, and I should class it with the Bab Souika in old Tunis as being one of the two most attractive native public places in North Africa where one may move about within the space of a few yards all the day and be fascinated for every minute of it.

Algeria, having been entirely in French hands for more than half a century, is now thoroughly French in character. It has a small area of highly



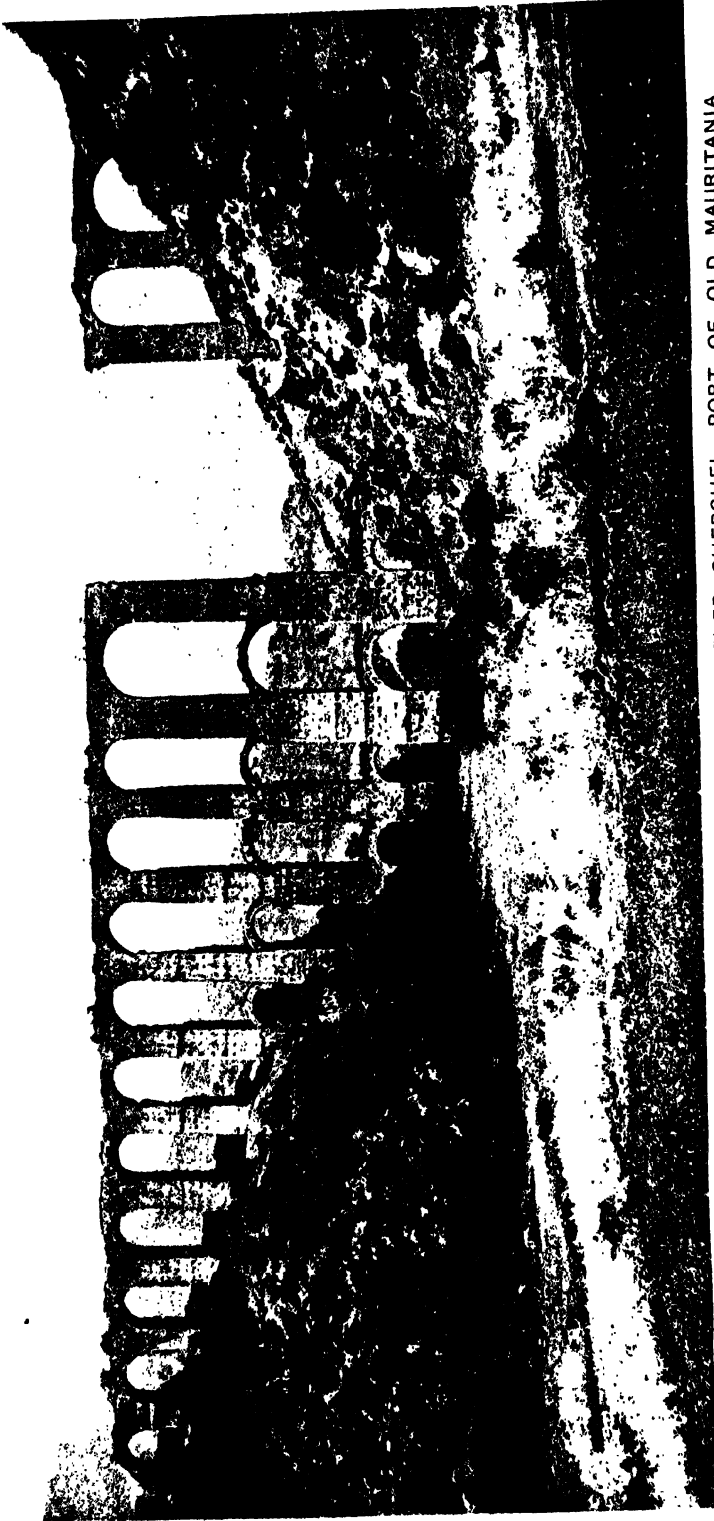
WHERE CLEOPATRA'S DAUGHTER SLEEPS BY THE COAST OF BARBARY

Upon a hill near Cherchel stands this great cone of stone blocks, 110 feet high, looking out over the Mediterranean. "Kubr-er Rumia," the Arabs call it, the "tomb of the Roman woman," Christian being still "Romans" to them. The tomb was built to house the bodies of Silene Cleopatra and her husband, Juba, King of Numidia.



MASSINISSA'S TOMB OF TUFFA BLOCKS RAVAGED BY THIEVES AND TIME

When Rome was fighting Carthage Massinissa, king of the eastern part of Numidia, allied himself with the winning side. Under the friendship of Rome he retained his kingdom and erected this great tomb, 35 miles south-west of Constantine. The smashed edge is a reminder of the French bombardment for the purpose of opening up the sepulchre. It was found to have been already rifled by thieves.



GAUNT ARCHES OF THE GREAT ROMAN AQUEDUCT THAT SERVED CHERCEL, PORT OF OLD MAURITANIA

About 50 miles westward of Algiers along the Mediterranean coast is the little port of Chercel, once capital of the province of Mauritania. In Roman days there were inner and outer harbours, but these have been silted and are only entered with difficulty. There have been several cities on the site and both Carthaginian and Byzantine have left traces. But the Romans, above all others, set their mark upon the district for all time, and one of the main monuments of their dead empire is this great aqueduct that soars over a valley on its triple system of archways. By it was brought the main water supply of the city, then called Caesarea



CAMELS FOR SALE OUTSIDE A DESERT VILLAGE: A GLIMPSE OF THE REAL SAHARA
 In so far as it lies within the confines of Algeria, the Sahara may be divided roughly into the region of the Hamadas, an entirely waterless expanse where the soil is either rocky or else of sun-hardened clay, and the Arg, or district of sandhills. In the last are many watercourses flowing down from the limestone heights of the Sahara Atlas range. Most of these streams are subterranean. Thus, by means of wells, the Berbers have been able to make plots of land sufficiently fertile to support palm-trees. Such a district is illustrated above, where the whole landscape is chequered with plantations

E. N. A.

productive plains and valleys near the coast, but it is not really as strong as it should be on the agricultural side. Cotton is being extensively grown, while the cultivation of tobacco, of which there are some 20,000 planters producing nearly 500,000 hundredweight a year, is found to be very profitable. All the semi-tropical fruits are grown in abundance. There

Algiers, in all but the hottest months, is in the main most pleasant and agreeable, the temperature from November to April being about 57° F. It may be 54° in January and may rise to 65° or thereabouts in April, after which the heat increases rapidly. The winter range farther south at Biskra is from 40° to 60°. The nights are often chilly in winter and spring.



TANGIER ENTHRONED ABOVE THE CRAGS OF THE ATLANTIC COAST

Some 38 miles by sea south-west of Gibraltar, Tangier stands, poorly built but picture-que, on a small bay in the Atlantic coast of Morocco. Together with about 140 square miles of surrounding territory, the city has been administered by representatives of the Sultan and the Great Powers. The commanding plateau of El Marzan is seen here with the fortifications of the Naam battery

are extensive forests and mining is being conducted on a fairly large scale, iron, lead, mercury, copper, antimony and petroleum being found.

In general, as elsewhere in North Africa, there are two seasons, the rainy and the dry. But the mention of a "rainy" season in this way, when for days nothing but sunshine and blue skies may be experienced, is often misleading and one might be inclined to discard the term were there not now and then a very wet winter, when even at Algiers it seems to rain unceasingly and there may be falls of snow. However, the climate of the city of

Algiers is easy to reach from Marseilles and Algiers, a fine city with its central parts thoroughly modern, has all the conveniences looked for by traveller and holiday-maker, many good hotels and a capital climate. Its bay is magnificent—a glorious sweep—and in the corner of it is the old port where the pirates had their lairs. Such things, and the Kasbah, the old town to which one climbs on the side of the hill, the tomb and shrine of Sidi Abd er Rahman and the sublime view over all from the heights of Bouzareca at the back, within the compass of an afternoon's walk, make up attractions enough for Algiers. But

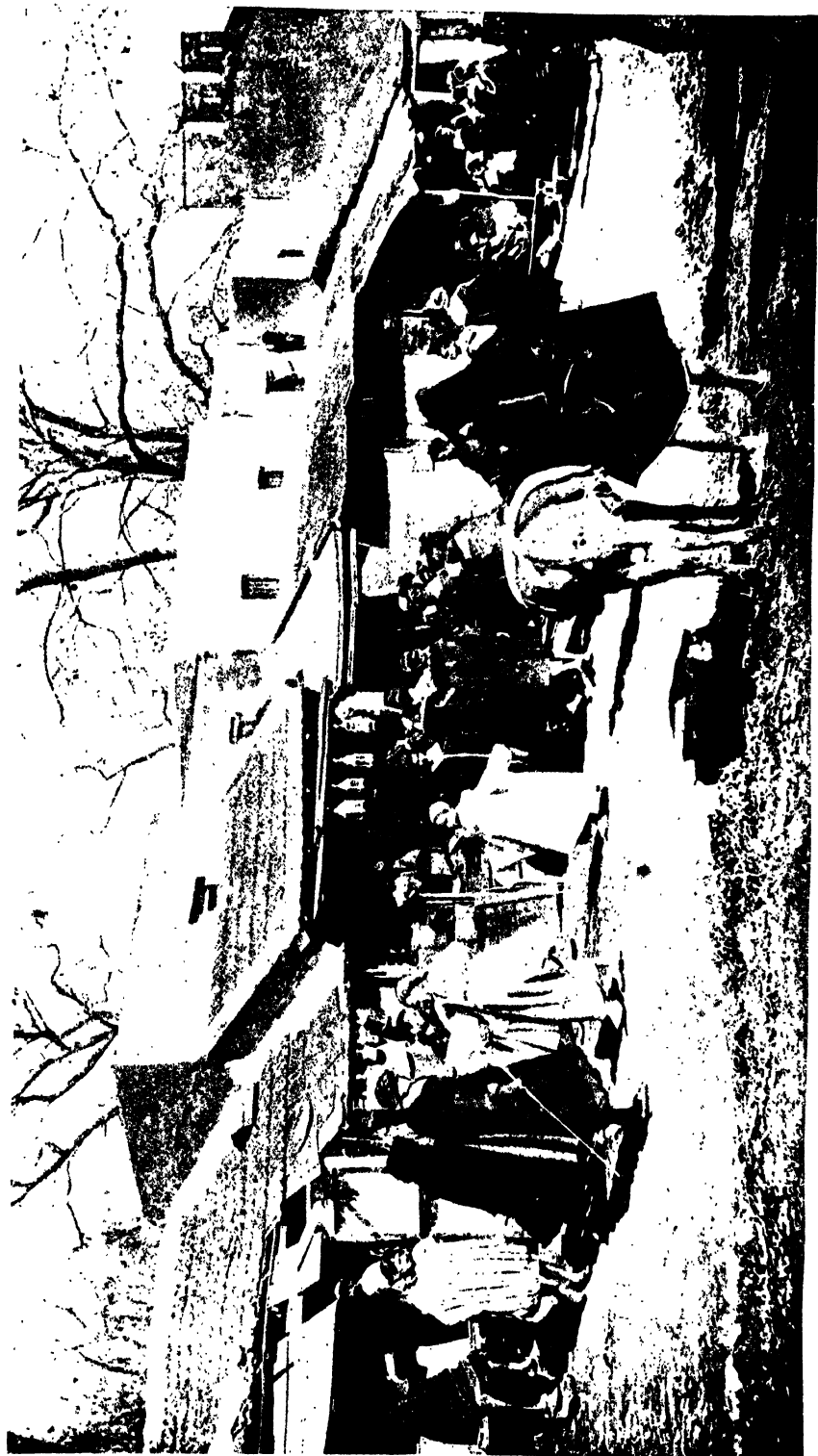


PANORAMA OF A COASTAL PORTION OF PICTURESQUE TANGIER

On the hilly west bank of a shallow bay of the Atlantic lies Tangier, the well-known seaport and health resort of north-west Africa, an important commercial town in Morocco and the seat of accredited representatives of the foreign Powers. These three photographs, if placed end to end, would form one continuous view and present an attractive panorama of a picturesque Oriental town



DISTANT VIEW OF TANGIER, AN INTERNATIONALISED PORT AND AN IMPORTANT EMPORIUM OF NORTH-WEST AFRICA
 Tangier's geographical position has always procured for it a prominent place in the history of Morocco, while its coastal situation and setting of hill country, dotted with white summer residences, lend it undecidable charm. The houses of Gibraltar, against their rocky background are distinctly visible from Tangier and the sudden change from West to East, for the city teems with the inexpressible magic of the Orient, is very bewildering to the European. In the vicinity is the ancient site of Old Tangier, the Tingis of the Romans



John Bushby

VIVID ARAB MARKET SCENE IN THE INTERNATIONAL SEAPORT OF TANGIER

Owing to its misfortunes in the past, the result of international jealousies that have hitherto it from Power to Power, Tangier might be called a backward town, in spite of its large French and Spanish elements: it is served by no railway and its harbour is neglected and inadequate. For one in search of local colour, however, it has an abiding appeal and many delightful hours may be spent among the Arab crowds in the open souk close to the Babel Souk, or Gate of the Market. There is the attraction not only of bright and varied merchandise, but of jugglers and entertainers who might have stepped from the pages of the "Arabian Nights"



MARRAKESH (MOROCCO CITY), SECOND AND SOUTHERN CAPITAL OF THE SULTANATE OF MOROCCO E. N. A.

At the north end of an immense fertile plain in central Morocco, north of the Atlas group, and surrounded by a girdle of palm trees, lies the city of Marrakesh, or Morocco. It is encompassed by a wall and contains many ancient but decayed buildings and several notable mosques, including the Kutubia, the high tower of which, rising to 250 feet forms a conspicuous landmark for miles around. Marrakesh is a town of considerable importance, being situated within easy reach of the Atlas Mountains and commanding the trade routes to the south. The chief industries are connected with leather-working, tile-making, pottery and iron-working.



IN THE DJEMA ET FNA. CELEBRATED SQUARE OF THE INDUSTRIAL ISLAND TOWN OF MARRAKESH
 Numerous markets are held in Marrakesh, for this city is the centre of an extensive commercial life. Apart from the throng of haggling and jostling buyers and sellers, the market places are frequented by a vast variety of Oriental street types: the snake-charmer and story-teller attract much attention; the barber shaves the heads of the faithful; the water-carrier gives drink to the thirsty; the beggar whines for alms; the astrologer sells mystic charms to the credulous; the white-turbaned lawyer prepares legal documents—each imparting a touch of that "local colour" which stamps Marrakesh as a true city of the East.

E. N. A.



E. N. A.

OVERLOOKING MARRAKESH, SHOWING THE GREAT ATLAS CHAIN OF MOUNTAINS IN THE BACKGROUND

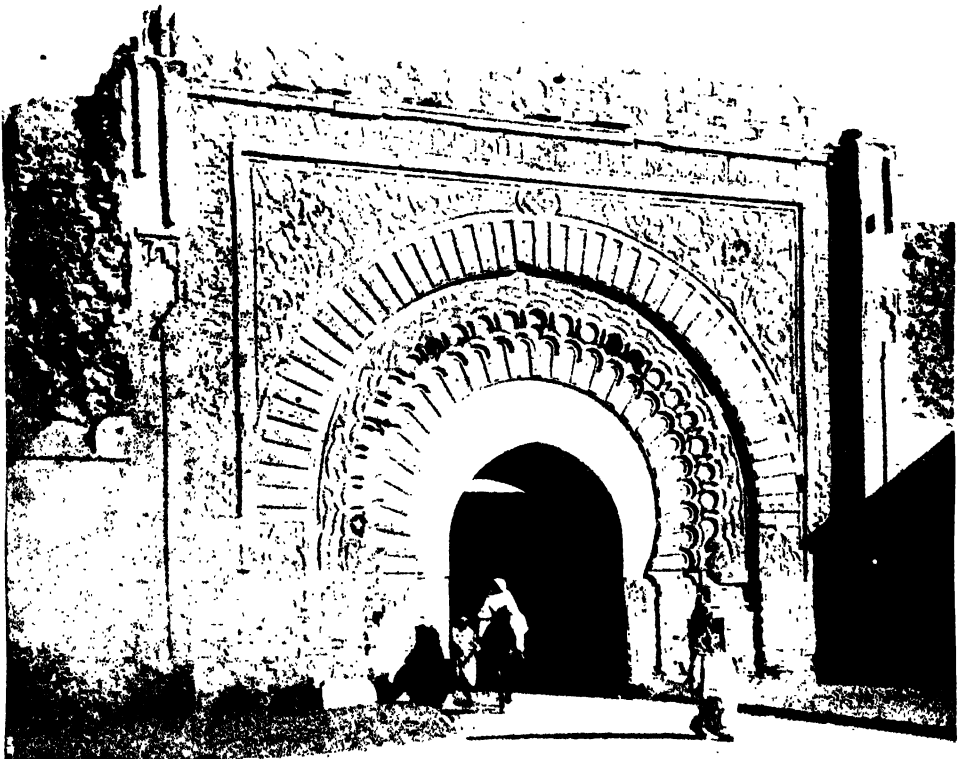
As in most Moorish towns, the houses of Marrakesh are without numbers and the streets without names. With the exception of the market squares the streets are narrow and confusing to the stranger by reason of the many windings and curves. Most of the houses are in a tumble-down condition, the bulk of them with flat roofs and with the grime and ruin of the centuries peering through the whitewash coating of the walls; on the whole the city presents a decidedly woebegone and decayed appearance. Marrakesh is one of the three imperial cities of Morocco; the sultan's palace stands outside the walls and covers an area of about 200 acres

it must be remembered that this is like a bit of France—highly developed—and the native colour and circumstance to be enjoyed in Morocco and Tunisia are less evident here. You may do anything in Algiers, and especially you may enjoy the air and sunshine, either in the fashionable hotel quarter over at Mustapha just outside the city or on the grand boulevard overlooking the bay in the middle of it. Still Algiers is not Algeria. It is one of the few places in North Africa at which travellers may stay for weeks or months, if so disposed, instead of sightseeing, but there are other places in the country that stir more the curiosity and intelligence.

Oran is seldom visited by travellers ; but in some respects it is an even more impressive study than Algiers of French colonial city development. He who

lands at the harbour and then mounts the steep hill by tram or otherwise to the city at the top has a surprise.

There are Arabs indeed, and native boys run about selling the latest editions of the evening newspapers such as "*La Petite Oranèse*" (there is a "*petit*" or "*petite*" journal in most big towns of North Africa), but there are fine streets that might have come straight from Paris, squares, the municipal theatre and everything, with, on the occasion of my last visit, an announcement of a second-class kind of bull-fight just to indicate that the Spaniards have had keen interest in the place in the past, and still have some. Oran, with its huge warehouses by the harbour and the keen business appearance of its main streets, sufficiently indicates what is its mission. Constantine, a day's journey on the



Felix

ONE OF THE WEATHER-WORN PORTALS IN THE WALLS OF MARRAKESH

Numberless gates of peculiar beauty grace the grim walls of Marrakesh and are reckoned among the most prominent and handsome features of the city. Like the magnificent specimen seen above, with the bold curves and intricate relief design so characteristic of Arab architecture, most of the gates are in urgent need of repair, but the indolent Eastern nature ever puts it off until to-morrow



SHEEP THRIVE DESPITE THE SUN-DRIED HERBAGE OF MOROCCO

On the great pasture lands of North Africa a distinctive breed has been produced, well known as "Barbary sheep." These are distinguished by their small spiral horns of which they sometimes have four; and their wool is of good quality although in Morocco, at least, little is done to improve the stock. This Moorish shepherd and his small flock are in a palm-grove near Marrakesh.

other side of Algiers and on the way to Tunis or Biskra as the case may be, is different and so attractive that it deserves more than the odd day that the traveller in a hurry usually awards it. Here again we see France, busy with shops and banks and a fine court of justice. Constantine has not the commercial elegance and modernity of Oran, the Arab influence is perhaps a little stronger, but the old Rue Perregaux, though far from clean, is one of the most interesting native streets in North Africa, while the deep gorge below this eagle's nest of a city is wonderful.

From Constantine a railway tracks due south to Biskra, the "Garden of Aliah." On the way are Batna whence it is a motor ride to the famous ruins of Timgad, already referred to, and to picturesque El Kantara, known as the "Gate of the Desert," a little farther on. Biskra has all the attributes of an edge-of-the-

desert town and is a pleasant winter resort; and from here one may go by railway through the desert, with palm oases at intervals, to Touggourt, which is a jumping-off oasis for long desert expeditions. It is a whole day's journey from Biskra to Touggourt and after the first wonder at being really in the desert it is somewhat monotonous, though the travelling is comfortable.

Touggourt is by way of being a metropolis or centre for the northern desert, and as yet it is very raw and from the traveller's point of view unspoiled, but one is impressed by the large French administrative quarters. Rather tired of travelling, I have at Touggourt escaped from the bunch of rough buildings of many sorts that make the city and walked away, past Beduin tents, into the full, plain desert at the setting of the big crimson sun, and felt there the great peace, the exquisite loneliness of the Sahara, which is an emotion that grows upon one. Then, at



E. N. A.

ONE OF THE SACRED CITIES OF ISLAM, CHARMINGLY SITUATED IN THE UPPER VALLEY OF THE SEBOU RIVER Morocco possesses three capitals or royal residences—Fez, Mequinez and Marrakesh. Of these Fez is the most northerly and lies at a distance of 160 miles south of Tangier, and about 100 miles east of the port of Rabat, with which it is connected by a light railway opened in 1915. It is an old town, much venerated by the Moslem world, and has been called the Mecca of the West. With its myriad flat-roofed houses and graceful minarets, interspersed with palms and other trees, the white city lying compactly in its beautiful setting presents an exceedingly attractive appearance



OLD ART TO BRIGHTEN A MODERN HOUSE

Modern representatives of the same race whose craft reached its apex in the Alhambra are seen here at work in Fez on ornamental arabesques in the familiar Moorish style; their art is still on a high level of merit

night, Touggourt is all blackness and one must positively grope one's way to the bare native café where the Ouled Naïls perform their dancing rites by the light of dim lamps or candles and to the music of the pipes and tom-toms.

From Touggourt caravan expeditions have been made across the desert track to Tozeur in southern Tunisia, and thence one may go up country to Tunis itself by railway, but the journey between the two oases is now being made

by caterpillar motor-cars. Other long reaches down into the Sahara from the coast are made to Laghouat from Algiers and to Colomb Bechar from Oran.

The climate of Tunisia is appreciably warmer than that of parts of North Africa farther west, but again it is patchy, and the nights are sometimes distinctly cold until the spring is well advanced. But, though there is occasionally a bad and wet winter, the temperature during the dark months is rarely uncomfortably low and generally the rainy season is disposed of in a couple of months in mid-winter. The spring is delicious, but after the middle of May it becomes too warm for pleasure. Geographically and productively the country is considered as consisting mainly of the Tell by the north-east and the fertile region of the Sahel along the eastern coast that turns sharply round at Cape Bon and runs direct south to the Gulf of Gabes. This Sahel is well watered by rains from the eastern Mediterranean and has a

good climate. The interior is rough and hilly with rocky ranges, while beyond Gabes in the south the country lapses into simple desert.

The olive "forests" in the neighbourhood of Sfax, where one looks down long straight avenues of the trees to far distant horizons—and there are hundreds of these avenues—is an impressive sight. Tunisia is rich in minerals, with a speciality in phosphates, and its sponge fisheries are important. As to its

people, in the city of Tunis the Turkish note is struck and one admires the tall strong forms of many of these Tunisians, while again the Italians are a force here, greatly outnumbering the French, to whom they cause anxiety.

A short visit to Tunisia will show to any person of intelligence how strangely mistaken are those who make flying excursions through North Africa, and because they find mosques and Arabs everywhere reach a rapid conclusion that "when you have seen one you have seen the lot." Whatever may happen in time, the French hold of Tunisia, secure enough as it may be reckoned, is less secure than it is elsewhere; but in many respects it is the pearl of the Mediterranean, and for me, as wanderer and student, it is the ever delightful treasure of this trinity with the largest and most varied interest.

It is being less thoroughly worked by the tourist class than the others,

and there is often a disposition to omit it, after an excursion through Morocco and Algeria. It is, though comfortable in parts, happily not yet a place for society in its fine moods, and young persons who seek North Africa for fox-trotting and kindred purposes may avoid it; but my earnest advice to others who would, with only a little exertion and expense, come to know something more of a fascinating variety of Oriental life and again of semi-barbaric ways of existence, is to spend what time they can in Tunisia and go right down south as far as Gabes in the gulf of that name, an oasis on the edge of the desert which has a comfortable, small hotel and surrounds life of intensest interest.

In this big oasis are several villages where the native life is pure and untouched by Europeanism in any form, the Grand Djara, Menzel, Chenini and others. Nothing could be more



E. N. A.

HOW THE MERCHANTS OF FEZ ARE PROTECTED FROM THE SUN

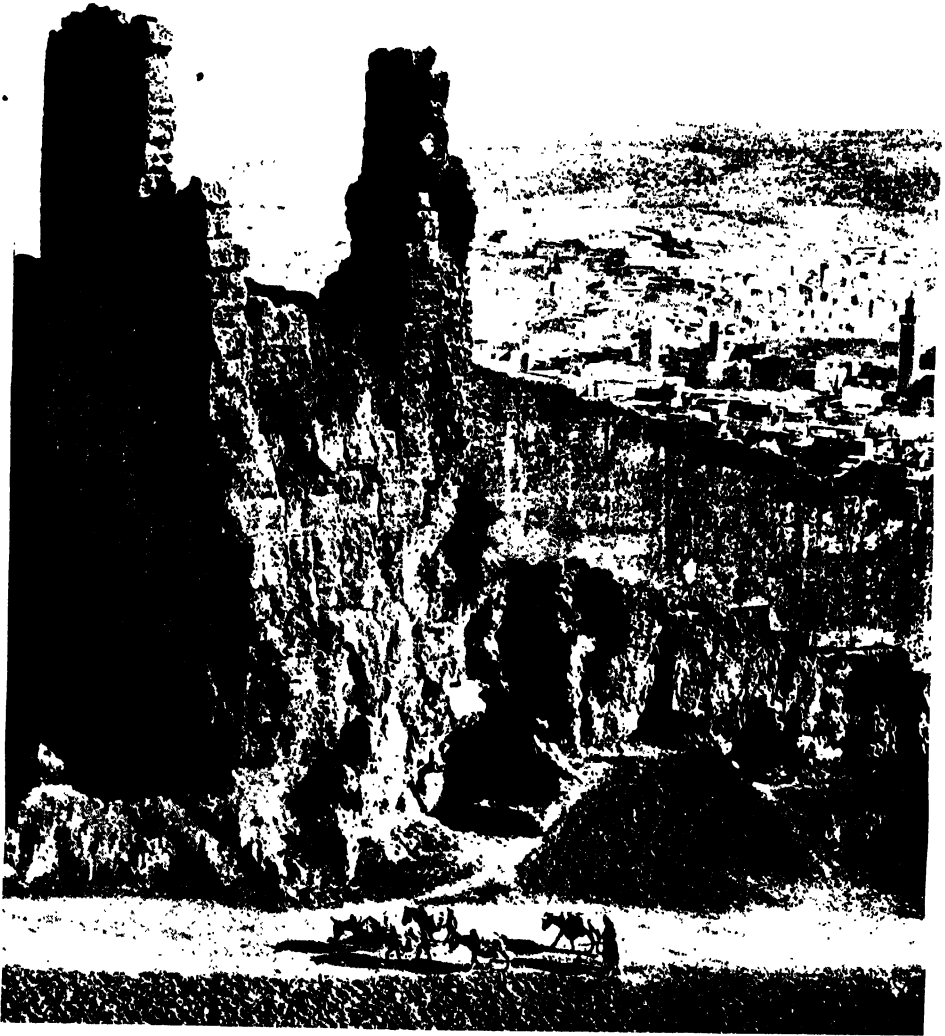
In Fez, as in many of the sun-drenched towns of Islam, the markets are roofed over in varying degrees of completeness, a few trusses of grass being often considered sufficient to mitigate the heat. These "souks," as they are called, are really less markets, in the European sense, than streets devoted to merchandise and all the complicated ritual of Oriental bargaining



E. N. A.

FEZ, THE NORTHERN CAPITAL CITY OF MOROCCO, SEEN FROM ITS NEIGHBOURING HEIGHTS

Fez is situated among groves and gardens in a picturesque valley in the interior of Morocco. On the west stretches an extensive plain, while forested hills rise on two sides and beyond them runs a lofty mountain range. The city is cut into two parts by the river Pearl; the old town and the new being on the right and left banks respectively, the whole girt by an ancient wall which, though for the most part in a sorry state of decay, still supports several massive towers. In the vicinity are fragments of many medieval structures, including arches of aqueducts and various old tombs and forts.



OUTSIDE THE ONCE FORMIDABLE WALLS OF ANCIENT FEZ

From without the walls on the north side of Fez, close to the tombs of the Beni Marin sultans, a magnificent view is to be had right over the old city (Fez el Bali) out to the Bab el Fatouh and the olive groves on the other side of the valley—a view of white roofs varied here and there by mosque-towers and the fresh green foliage of a well watered town.

delightful than mere sauntering through the palm-shaded lanes in the cool of the afternoon when life just begins to stir again, the dogs to bark and the asses, tended by the Arabs, to trip along with their burdens, the scene being one of immense pictorial beauty, with splashes in the hedges of the brilliant scarlet flowers of the pome-

granate trees. When the streams come to open spaces near the villages the women—some very fine black ones among them—are busy in parties washing clothes, and a remarkable scene they make of it at the morning time.

In the early mornings the camel caravans come in from the far and lonely places with their burdens of alfa,



PANORAMIC VIEW OF THE CITY OF FEZ: ERSTWHILE FAMOUS CENTRE OF ARAB CULTURE
 E. N. A.
 Since its foundation about A.D. 808, Fez has been the chief centre of the religious, commercial and industrial life in Morocco. From the ninth to the thirteenth century, the city, known as the "Athens of Africa," was famous for its schools, libraries and general prosperity. Most of its former greatness has passed away, but it nevertheless contains attractive bazaars and not a few buildings of architectural beauty, while in the "University"—once a great seat of Mahomedan learning—attached to the Mosque of the Cherubim, or of Mu'at Idris, a famous library has been preserved, containing some 30,000 manuscripts, many of which are priceless.



MULAI IDRIS FROM AN AEROPLANE. THE ONLY WAY A EUROPEAN MAY SEE THE FORBIDDEN CITY
 E. N. A
 About nine miles north of Mequinez is the most jealously guarded shrine in Morocco. It is sheltered within the confines of this city of Mulai Idris, which lies upon the vineyard-covered slopes of Mount Zarhon, a peak in one of the ramifications of the Middle Atlas system. The shrine is built over the tomb of Mulai Idris I, who founded the Moorish Empire and was buried here A.D. 791. The town is a recognized sanctuary and free from payment of taxes. No Jew or Christian may enter the gates, and though several attempts to do so have been made by white men there is no certified record of success



IN THE COUNTRY OF THE MIDDLE ATLAS: A NOMAD CAMP AMONG THE WOODS

Roughly speaking, the Middle Atlas range forms the base of a triangle whose other sides are the Mediterranean and Atlantic coasts of Morocco. This region has not been extensively explored and it is in these wooded hills that some of the forest and most war-like tribes have their homes. In the south-west the Middle Atlas are joined by a chain of lower hills to the Higher Atlas system. This has some fine forests of oak, cork and cedar, with little suggestion of the adjacent Sahara

E. N. A



ASRU AND ITS FLAT-TOPPED HOUSES AMONG THE FOOTHILLS OF THE MIDDLE ATLAS

Asru is a small town about 150 miles due east of Casa Blanca and stands on the banks of the rather uncertain stream of the Wadi Bicht, which, after a lengthy course, unites with the stream of the Sebou and flows into the Atlantic at Metidia. In this cup among the hills, which, as can be seen, are thickly covered with vegetation, there is sufficient water for cultivation, and outside the town walls, dwarfed here by the height from which the photograph was taken, are gardens and plantations of fruit trees

L. N. A.



Henry Leach

SPAIN REPRODUCED IN AFRICA: THE PLAZA DE ESPAÑA IN TETUAN

With its numerous minarets and lofty citadel overshadowed by the sandstone rocks of Jebel Diersa, the old part of Tetuan seems to be purely a town of the Orient unmarred by any European alterations. The town has 30,000 inhabitants and is the capital of the Spanish zone and the seat of the Moroccan Khalifa, who reigns under the High Commissioner of Spain. In the background is the Customs House just outside the Moorish city and in the centre of the square an attempt has been made to produce the effect of a Spanish plaza. The Residency of the High Commissioner is to the right



MUEZZIN'S CALL TO PRAYER FROM A TETUAN MOSQUE

John Bushby

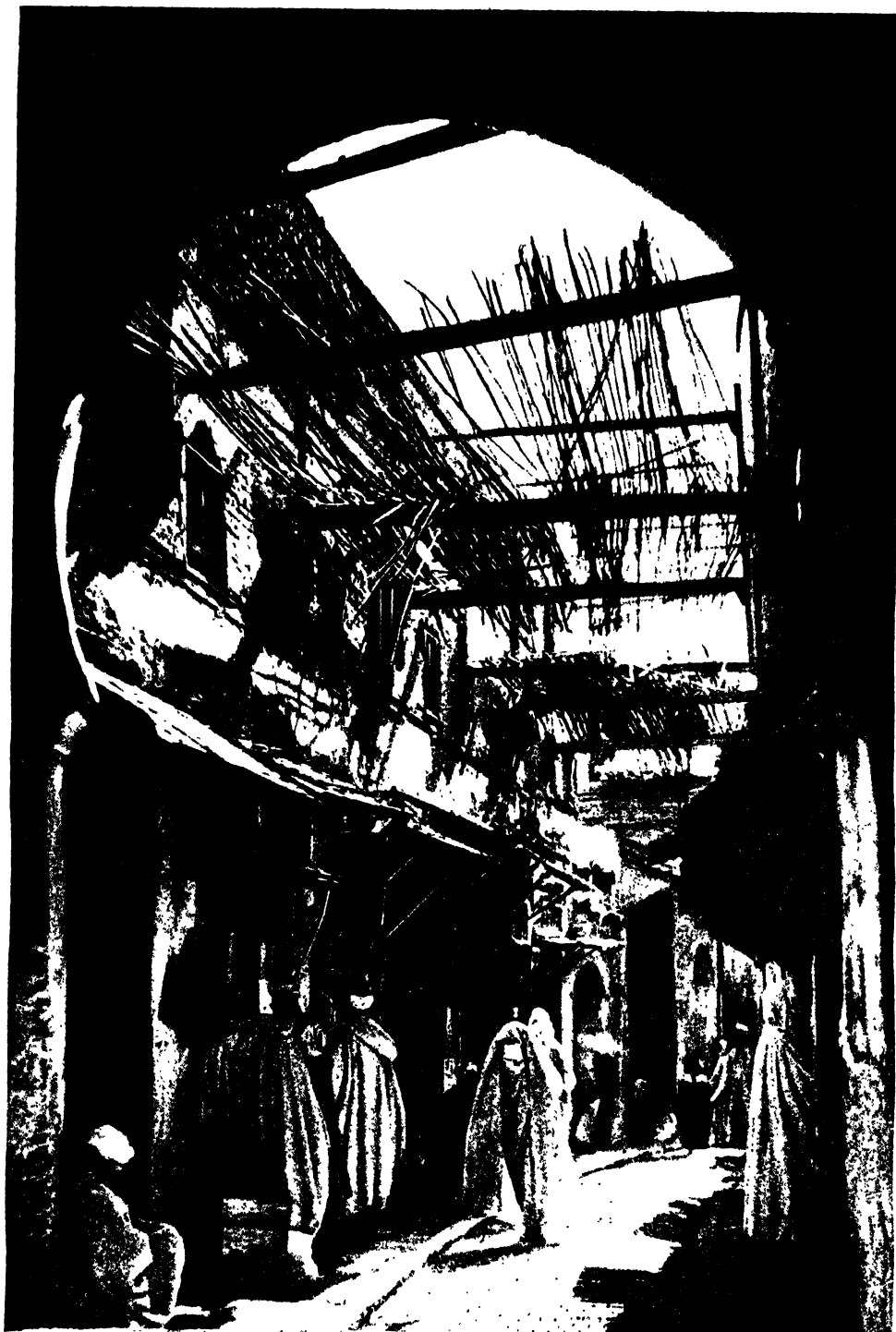
Tetuan is celebrated for its mosques, numbering between forty and fifty, several of which rival in architectural merit the Mahomedan sanctuaries of Tangier. The interiors can be glanced at in passing, but no unbeliever is allowed to set foot within these sacred precincts. At regular intervals the cry of the muezzin is heard calling the faithful followers of the Great Prophet to prayer.



John Bushby

NEWS FROM THE COUNTRY IN A CORNER OF OLD TETUAN

The crumbling walls which encompass the old town of Tetuan are garnished with several towers, and some fine gateways give access to the narrow, winding streets, which are essentially Oriental in their appearance, having been little changed by European influence. Tetuan is about six miles from the Bay of Tetuan, on the north-east coast of Morocco.



E. S. A.

BARGAINING IN THE SCANT SHADE OF THE SOUKS AT MEQUINEZ

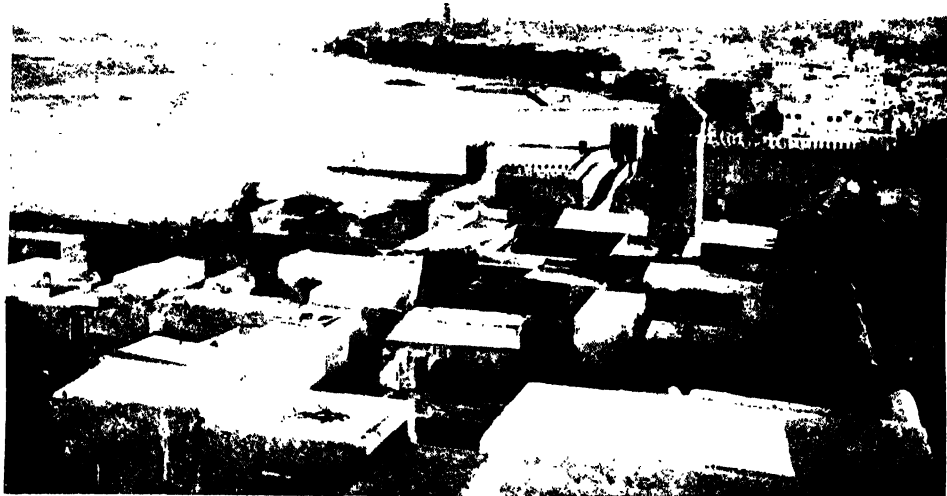
Even scantier than at Fez is the roofing of the souks at Mequinez. Lying in the French zone some 34 miles to the westward of the former city, Mequinez is a place of great interest, being still almost unspoilt, although not untouched by the French progressive policy. Within easy reach of it are the ruins of Rome's old Mauritanian outpost of Volubilis with its 4,000 yards of city wall



E. N. A.

STREET SHOPS IN MEQUINEZ, ONE OF THE THREE IMPERIAL CITIES

Mequinez, or Meknes, lies 31 miles west-south-west of Fez in a fruitful valley with the wooded slopes of the Middle Atlas to the south-west. The city has no mean place in modern Moorish history, but still carries a reputation for bigotry and fanaticism. The markets are of little importance, and only the occasional visits of the court rouse the town from its customary lethargy.



E. N. A.

FORTIFIED SEAPORT AND COMMERCIAL TOWN ON THE MOROCCAN COAST

Rabat, once the chief port of Morocco for European commerce, stands, strongly fortified, on the Atlantic coast at the mouth of the river Regreg opposite Sale. Of local manufactures the most important is that of carpets, for which the town was famous in remote times, and excellent Morocco leather is likewise produced, while olive-oil, wool, skins and wheat are among the principal exports.



E. N. A.

BUSTLING NOMAD MART. A CONTRAST TO THE CROWDED SOUKS OF THE TOWNS

Buyers and sellers, horses, pack-mules, camels, tents white and black, and merchandise displayed on the ground in the bright sun—all this and more go to make up the animated scene presented by a nomad market in Morocco. A touch of humor is added by the man on the extreme right pursuing with outstretched arms an escaped animal, startled no doubt by the noise of the aeroplane from Casa Blanca from which the photograph was taken.



TOWN AND HARBOUR OF CASA BLANCA SEEN FROM THE AIR

R. N. A.

How much trouble has been spent on the perfection of Casa Blanca harbour by piers and this great breakwater can only be adequately envisaged from the air. The town has extensive industries of its own and is the outlet for all the exportable produce of the district, to which there is communication by railway—to Rabat and Fez on one side and Seltat and Maadwa on the other

or esparto grass and sell it in the open space that serves for market, whence, after selection and bundling, it goes off to Europe. Ere summer comes it is often very warm at Gabes and then one may bathe in a brilliant sea and lounge to dry on splendid sands. And so on to many other phases of delight. The tranquillity is perfect. Here is a place for resting, and not for violent touring.

When I think of all I have seen in North Africa, and make a mental list of places that "whatever happens"

were a mass of big tubes, with entrance only at one end, and the inhabitants must needs climb like monkeys up the walls to gain admission to many of the holes above.

We are moving far from civilization here, and again when on another adventurous day we track the desert plain to the country of the Matmatas, who are troglodytes living in holes deep in the earth. Looking over a patchy, broken waste of sand one sees nothing but a lonely palm or two, and then, a little strangely, perhaps a small

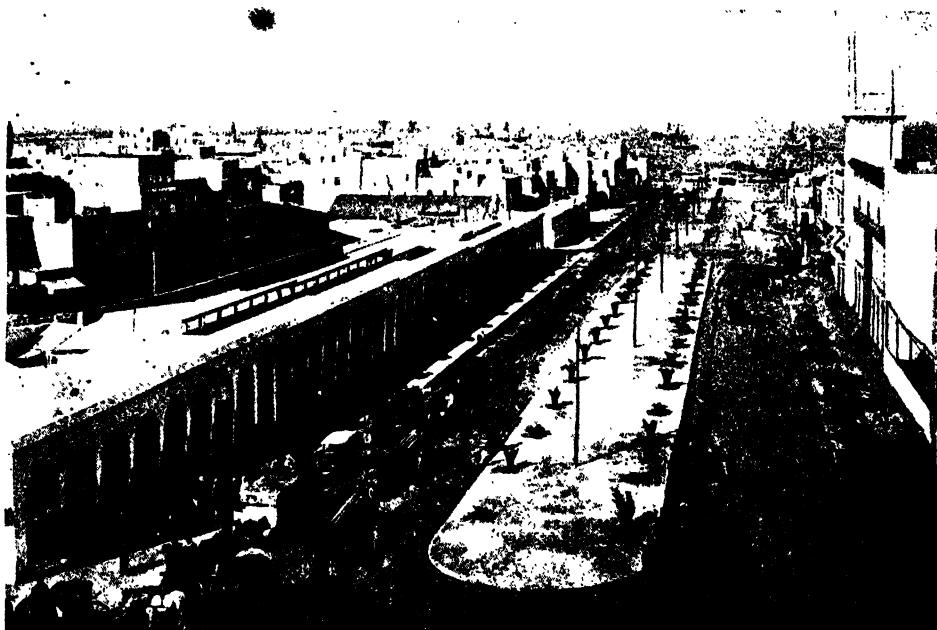


CASA BLANCA, AN IMPORTANT OUTLET FOR MOROCCAN COMMODITIES

Situated on the Atlantic coast between Rabat and Mazagan, Casa Blanca has a large maritime trade. Cattle are brought from the neighbouring district to this centre, while the fertile regions supply it with grain and wool. Built by the Portuguese in the fifteenth century, the town was definitely occupied in 1907 by the French, under whose secure rule trade has gradually increased

I must linger in at least once more, up comes Gabes at the beginning with its most subtle appeal to my senses, and its name is written. Besides, for the strenuous days there is Medenin, only a half day's journey distant over the desert waste, and here is a strange village where in what they call the "ksar", the houses or caves are like holes, fastened to each other as if they

mosque, and elsewhere a building of smaller pretensions which is found to be a synagogue; but below the surface is a large community, amounting to the population of a fair-sized town, and in this manner they have lived for centuries, for their better protection from both man and beast, and incidentally because their cave habitations are warm in winter and cool in summer.



E. N. A.

CASA BLANCA, THE GREAT COMMERCIAL CITY OF FRENCH MOROCCO

Over the ancient Arab town of Dar el Beida has risen modern Casa Blanca, the port of French Morocco. As a result of skillful engineering applied to its naturally suitable position, Casa Blanca has a large harbour in which ships can anchor in from five to seven fathoms. The annual trade of the city is valued at over £ 1,000,000. Above is the wide main street leading down to the wharves.

A small hole in the surface admits to a gallery leading down steeply to a place like a rough courtyard which opens to the sky, and round here at the bottom are the entrances to the caves for living and the caves for sleeping. The latter are remarkable in their arrangements, with their rough bedding laid on narrow trestle-like affairs, painted white with a pretence to a design, the sleeper lying upon them like an effigy upon a tomb while the back wall of his chamber is invariably decorated with common plates, empty pickle bottles and the like, which have been honoured and preserved for long past as treasures from the land of civilization.

The surprising thing is that these people, the males at all events, are wonderfully clean and well kempt. I have found some of them, primitive though they be, with the manners of urbane gentlemen, even though, of course, entirely illiterate and with minds thousands of years behind in all matters that do not pertain to the growing of

olives, which they sell, and the gathering from their local resources of the few necessities of their existence.

From Gabes it is possible to cross over to Tozeur, via Gafsa, another oasis full of special character; but it is a hard and wearying journey this way and I scarcely recommend it. However, the automobiles and the caterpillar autos are now making many differences. Southern Tunisia is in all respects splendid for travellers and sportsmen—good shooting—and both British and Italians have found that there is business there as well.

Returning north, Sfax is a flourishing seaport with a large French town built outside the untouched Arab "medina" which has good souks with a character of their own. Farther north is Susa, somewhat more careless in appearance and perhaps even in appointments, both native and French. Between Sfax and Susa is El Djem where, in immense solitude, only a tiny Arab village clinging to it now, is the Roman amphitheatre, once the

pride of the city of Thysdrus, which has disappeared. It is the finest Roman monument in North Africa and though the Colosseum at Rome could hold a few more people, this is better preserved. It would contain 60,000 spectators, hence more reflections and ruminations upon the past and present.

North of Susa is Kairwan, the African Mecca, a holy city with the Grand and other mosques on the largest scale, which Christians may enter, a privilege denied to them at Tunis, and mosques in general to the number of 390. The French have properly and considerately held off their hands from this place and, with many remarkable interests, it is unspoiled.

My last words in this sketch of North Africa shall be given to Tunis—"Tunis la Blanche"—the city of many delights. Its "medina" is perfect and unspoiled. The real East can show nothing better in souks or bazaars. Outside, the French city has all the conveniences of modern life. It has a French theatre, an Italian opera, cinemas, a casino, good newspapers and a band to play in the shaded avenue near the Residency in the warm afternoons.

Half an hour away on the tram or light railway is Carthage in full ruin, offering problems in archaeology which anyone may ponder when he has ceased to marvel at the beauty of the situation looking across the sapphire and turquoise waters of the bay to the mountain of Bou Cornin, of evil guise and reputation. Only walking distance beyond is perched upon a cliff, all shining white, Sidi Bou Said, the dreamiest little Arab village that one could love to live in, and farther on is the summer bathing resort, La Marsa, where the Bey has his chief palace. Then there is refreshing Hammam Lif, another summer place, at the foot of Bou Cornin, and elsewhere is the public park of the Belvedere, arranged to give fascinating glimpses of white Tunis through masses of trees. From the koubba, a beautiful Arab temple of fine mosaic and other work, one gazes over the trees to the white city, about which at the setting of the sun curious iridescent lights begin to float, until a strange soft violet mist, most delicate, enwraps it. The moment of the sunset call of the muezzin comes, and the Arab on guard in the koubba falls to his knees in prayer.

BARBARY STATES: GEOGRAPHICAL SUMMARY

Natural Divisions. As a whole the European part of Africa between the Sahara desert and the Mediterranean Sea. A gridiron of mountain ridges and valleys, the whole forming part of the great Old World system of tertiary folded mountains. Cf. Andalusia. One considerable lowland between the Rif and the Great Atlas.

Climate. A winter rain region. Atlantic westerlies in winter clothe the mountaintops with cloud and bring rain in decreasing quantities eastwards. Temperatures, always warm in winter, are less extreme between day and night and between winter and summer near the coast.

Products. Wines, olives and olive-oil, figs, wheat and barley are essentially Mediterranean. Dates and esparto betoken the influence of the Sahara. Phosphatic minerals are a sign of the dry climate. Cf. Chilean nitrate. Copper, lead and similar metallic ore bodies are due to the mountain folding. Cf. Andalusia.

Communications. The main east-west railway from Gabes to Morocco City, with numerous branches. Automobile passenger traffic is developed on the roads. Caterpillar automobiles are in increasing use for desert and semi-desert transport. Casa Blanca, Algiers and Tunis are important Mediterranean seaports. Algeria provides a starting point for caravan, automobile and air transport across the Sahara to French West Africa.

Outlook. A French domain; an outlet for French emigrants from South France; a complementary extension, for products of the soil, of Southern France. A comparatively densely-peopled land, with abundant natural resources, the Barbary States will increasingly provide food and raw materials to the manufacturing populations which will relatively predominate in Northern France as in Western Europe generally. If, as has been stated, Europe ends at the Saharan edge, European France includes the Barbary States.

From the Editor's Desk—(continued)

Subtle Differences in Points of View

AT very considerable trouble I have sought far and wide among the most popular of British travel-writers for those who might fairly be regarded as the latest authorities on the countries with which their names have become identified. Except in rare cases, there is usually a choice of writers, for in these days of universal travel few can claim to be the sole person to whom one must refer for information concerning this country or that. Moreover, there is a subtle difference in the point of view between those who look at a country chiefly for the picturesqueness and human interest of its inhabitants and those who have travelled through it with an eye on its geographical features, admiring its scenery, studying the possibilities of its natural products, its mineral resources, and so forth.

130 Popular Travel-Writers

IT would have been an easy matter for me merely to have asked each of the contributors to "Peoples of All Nations" to write another article concerning the country whose inhabitants they had already described, and I must confess that at times the temptation to do this was strong, as only those who have endeavoured to organize a work of such dimensions as **COUNTRIES OF THE WORLD** can appreciate the trouble necessary to bring together some 250 contributions by 130 different writers.

Energy Spent to Good Purpose

THE delays and disappointments that ensue during the negotiations by post, the letters, telegrams, and cables that are involved, tend eventually, before one's programme has been more than half advanced, to make one incline to the line of least resistance and distribute the writing among those contributors most easily accessible. I am glad to think, however, that I have had sufficient strength of mind to refuse to do the easy thing, and to hold out for the specific contributor that seemed to me best qualified for the work I wished to have done. The result of this policy is seen in the authoritative nature of the list of contributors to **COUNTRIES OF THE WORLD**, and when I contemplate the brilliant array of these distinguished travel-writers, I feel that the energy spent in bringing them together was really expended to good purpose!

From Amsterdam to Antarctica

IN the variety and educational value of its pictorial and geographical contents our present Part will, I think, compare not unfavourably with its predecessor. The past and present commercial importance of Amsterdam, together with the pre-eminent claims of that city as an art centre, are well set forth by Dr. Morgan-de-Groot. Sir William Ramsay's unrivalled knowledge of the Near East has enabled him to introduce the reader to the many remarkable features of Anatolia, the picturesque elevated plateau which through the ages has served as a natural bridge between Europe and Asia.

MR. Henry Leach, whose insight into the very heart of Spanish life and character is equalled by his intimate knowledge of the topography of the Peninsula, writes vividly of Andalusia, the mountain-fringed valley of the Guadalquivir. On Portugal's comparatively little known, but potentially rich, colony of Angola, in South-West Africa, Colonel Statham writes with authority, and Mr. Frank Debenham, a distinguished member of the scientific staff of Captain Scott's last expedition, deals with Antarctica—that land of eternal ice and snow which has yielded some of its age-old secrets for the first time to the courage and intrepidity of explorers of our own day.

Leading Features of Our Next Part

PART 3 of **COUNTRIES OF THE WORLD**, to be published on Tuesday, March 11, will also be varied and highly stimulating to the ordinary reader and to the student. The valuable introductory chapter by M. Emile Cammaerts on Antwerp, the great seaport of little Belgium, will be followed by a chapter on Arabia written by the most recent among European travellers in the storied "Island of the Arabs," Mrs. Rosita Forbes, whose animated and informed accounts of her desert experiences have won for her a world-wide audience. Eight pages of Arabian photographs reproduced in full colour will be among the illustrations to this chapter. Then comes a fascinating contribution on the Arctic Lands by Mr. Vilhjalmur Stefansson, who clears away many popular misconceptions regarding the regions round the North Pole and throws light on the generally unsuspected and amazing possibilities of the Far North. The Part concludes with a description, by Mr. F. A. Kirkpatrick, of Argentina, the vast prairie land of South America. In addition to the wealth of illustrations in colour and black and white, Part 3 will contain sixteen pages in photogravure.

COUNTRIES OF THE WORLD will be completed in about 40 Fortnightly Parts

PART 3 OF
Countries of the World

ON SALE TUESDAY, MARCH 11th

will contain

ANTWERP

The Great Seaport of Little Belgium

EMILE CAMMAERTS, a poet whose name is held in honour all over the world and whose descriptions of scenes in his own harassed little fatherland have added much lustre to modern letters, describes in characteristic style this great and picturesque city. Many illustrations and a **SPLendid PHOTOGRAPHURE SECTION** accompany this distinguished contribution

ARABIA

The Storied "Island of the Arabs"

Of recent days the reading public has followed with much interest the Press accounts of the adventures of Mrs. ROSITA FORBES among the Arab nomads of the African desert. This intrepid lady traveller contributes an enthralling chapter on Arabia, impregnated with that intimacy which comes only from personal experience. **EIGHT COLOUR PLATES** of great beauty and twenty-five illustrations embellish it

ARCTIC LANDS

Astonishing Possibilities of the Frozen North

Much interest attaches to this chapter, not only by reason of its brilliant authorship—the writer is VILHJALMUR STEFANSSON, the renowned Arctic explorer and author—but also because of its accompanying photographs. Readers will recall the wonderful photogravures of Antarctic scenes; here they will find a complementary **PHOTOGRAPHURE SECTION** of equal beauty.

ARGENTINA

Vast Prairie Land of South America

F. A. KIRKPATRICK, Reader in Spanish at Cambridge University and an authority of highest repute on all matters connected with South America, is the author of a penetrating study of this great new country so little known to many people. Twenty excellent photographs and a map illustrate this, a contribution of most vital interest.

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7 COUNTRIES OF THE WORLD

Edited by J.A. Hammerton



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Contents of this Part

BARCELONA	- - -	<i>Plan & 27 Photographs</i>	-	<i>Henry Leach</i>
BELGIUM	- - -	<i>Map „ 52</i>	„	<i>Charles Sarolca</i>
BELGRADE	- - -	<i>Plan „ 10</i>	„	<i>Sir Percival Phillips</i>
BENGAL, BIHAR & ORISSA		<i>Map „ 16</i>	„	<i>Edward E. Long</i>

PHOTOGRAVURE SECTIONS (16 pages), Barcelona & Belgium

FULL COLOUR SECTION (8 pages), Belgium

From the Editor's Desk

THE FIFTEWAY HOUSE, FARRINGTON STREET,
LONDON, E.C.4

WITH this Part the first volume of **COUNTRIES OF THE WORLD** is complete, thus making a neat volume of seven Parts in conformity with "Peoples of All Nations," which should be regarded as a companion work. The exact number of volumes that will complete the series cannot at the moment be definitely forecast; it is not always easy at the outset of a large serial publication such as this to estimate with absolute accuracy how the material available is likely to "pan out," and a little latitude should always be allowed by subscribers to their Editor, whose object is to produce the best work he can out of the available material. But one thing which I have always endeavoured, and I hope successfully, to avoid in the series to which **COUNTRIES OF THE WORLD** belongs is "padding," by the use of which it is an easy matter to make a work interminably long. By keeping a close hand upon the common tendency to overrun the agreed space for letterpress—the fault of almost every contributor—I am very hopeful that we shall be able to complete the work without the slightest suspicion of padding and also without danger of undue compression.

Choice of Fine Binding Styles

DISPLAYED in page iv of this wrapper are the illustrations of the two binding styles which I promised in my last notes; as far as the best colour process can achieve it, they show exactly how the volume will appear on the shelf, according to which style is chosen. The **GREEN CLOTH** binding, which costs only 2s., is yet made from the very best English cloth and will be found in every way serviceable and enduring;

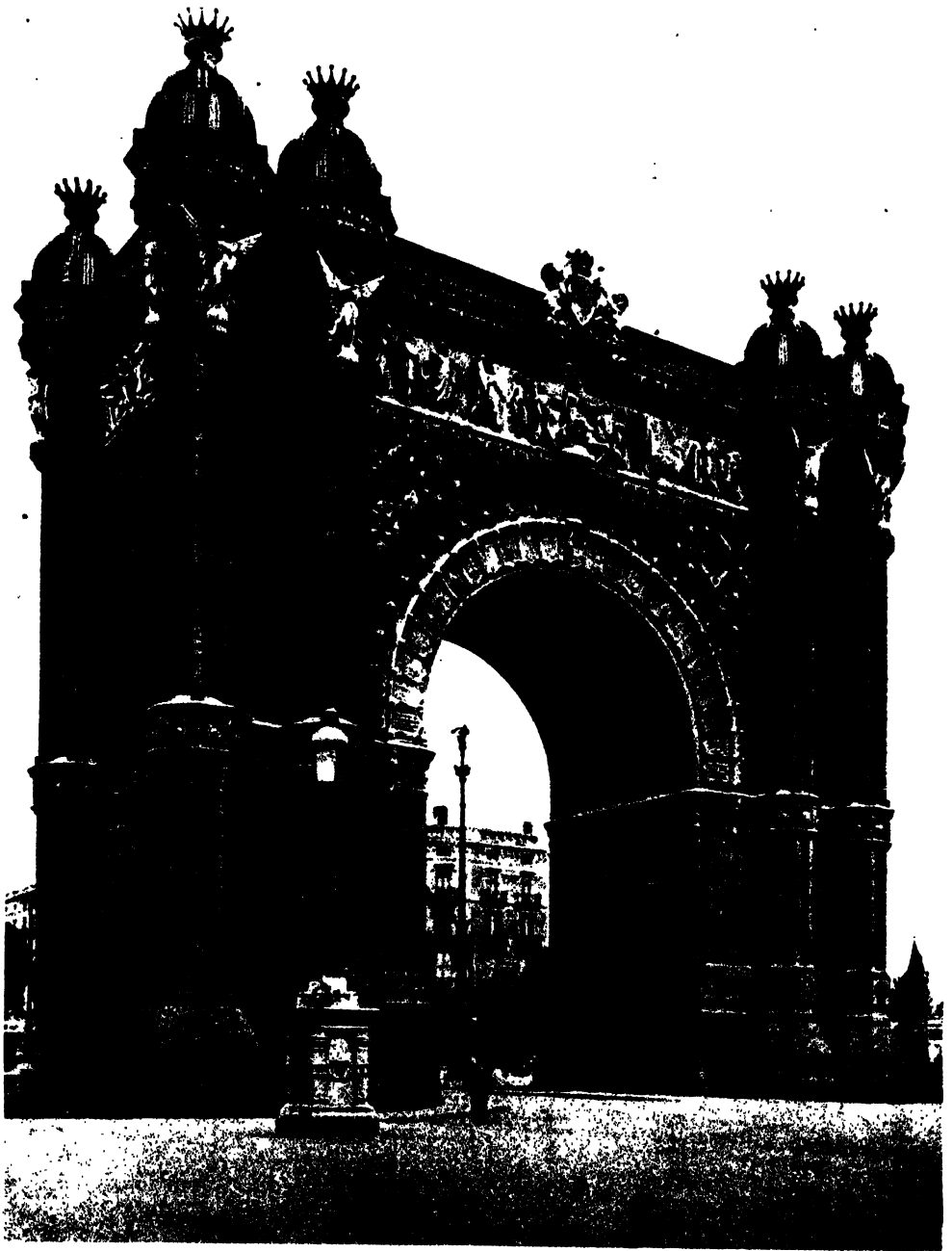
while for those who desire something more expensive, the **BROWN ROXBURGH** case at 4s. 6d., with its morocco grain skin and art linen filling, could not well be surpassed at the price. In both instances the gold lettering and design are in the finest English gold, while for an extra 6d. the leaves will be provided with a gilt top.

Binding Cases an Economic Necessity

IN short, if it were possible for money to be wasted in purchasing **COUNTRIES OF THE WORLD**, he would be the one to waste it who buys the Parts and does not buy the cases for them. For the work is not something to be read once and laid aside like a magazine, but a treasure to be kept for the delight of yourself and your children, and their children after them. In page iii are clearly set forth the prices and conditions of purchase.

Contents of Part 8

PART 8, commencing Volume II, will contain chapters on Berlin, Bohemia, Bolivia and Bombay. The first three are by Mr. Brayley Hodggets, Lt.-Col. Granville Baker and Mr. A. V. L. Guise respectively, but Bombay the province, not the city, is the product of joint authorship. Mr. Edward E. Long has written on Bombay Province in the narrower sense, Cutch and Kathiawar, while Mr. Marmaduke Piekthall is responsible for Gujarat. These four, however, constitute such a definite geographical unit that it has been thought fit to combine them into one chapter. As for the illustrations, Bohemia and Bolivia are each adorned by a magnificent eight-page photogravure section, while Bombay supplies a really fine colour series.



BARCELONA. *At the north end of the broad Salón de San Juan this fine brick-built Arco de Triunfo commemorates the Exhibition of 1888*

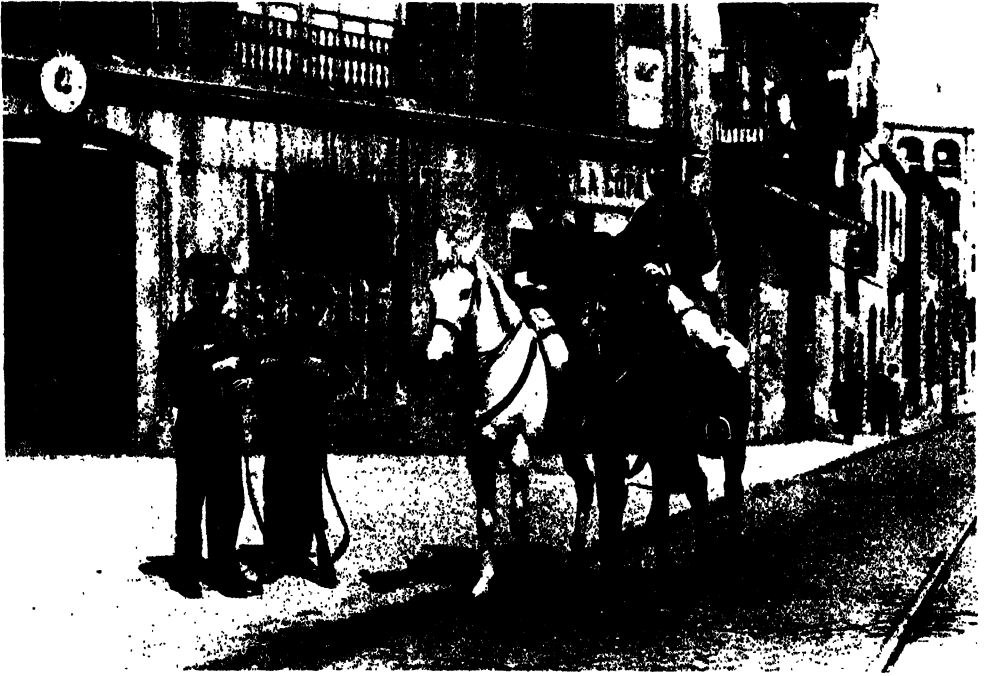
Photos on pages 622-3 and 626-8, Ernest Peterffy



Goats share the streets of Barcelona with the human throng. Twice a day they are driven through the city and milked before the houses



BARCELONA. This fountain surmounted by the figure of a boy stands near the Plaza de la Universidad in the north-west of the city



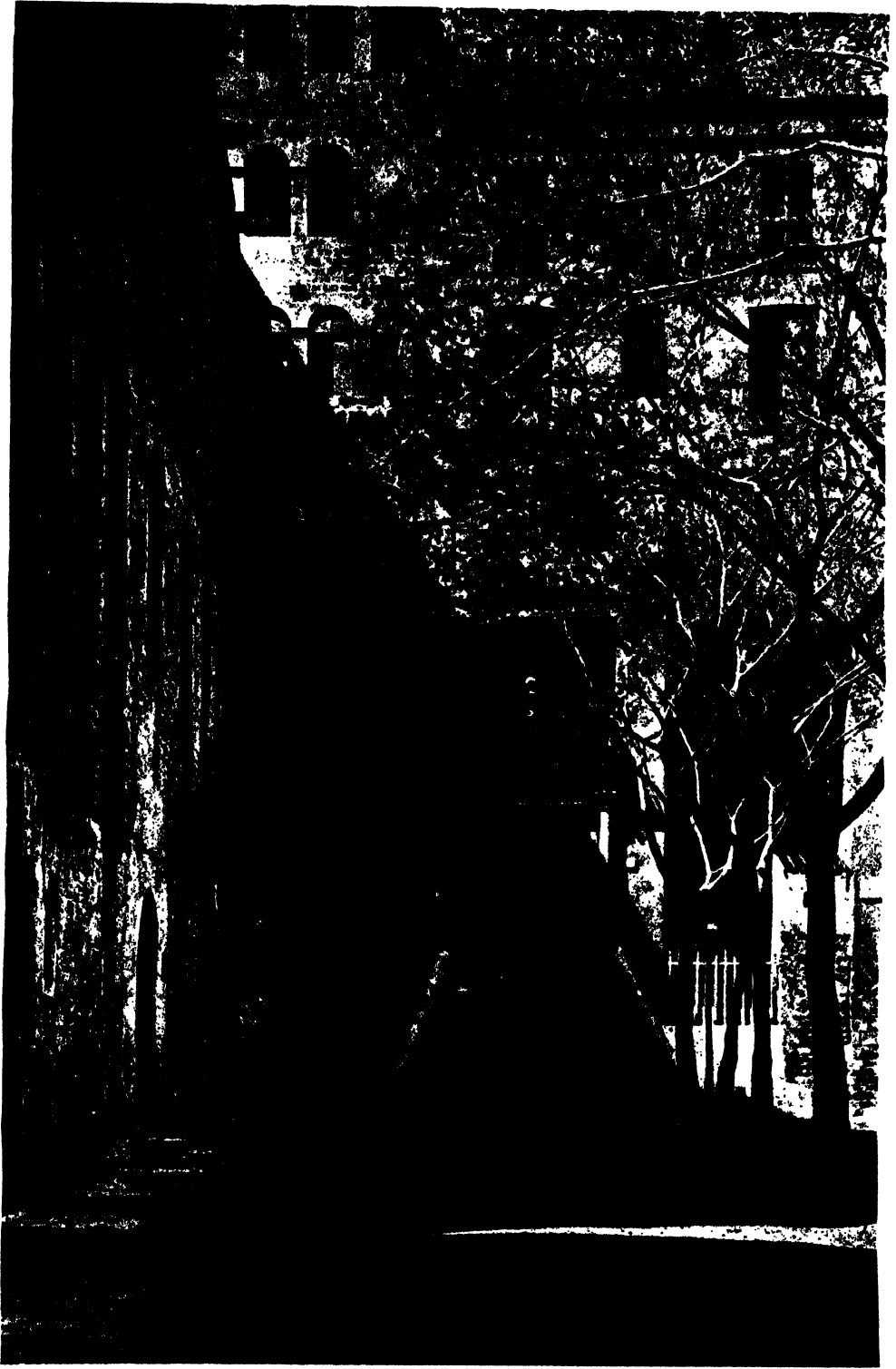
Modelled upon the gendarmerie formed in France in 1791 the Guardia Civil, or State Police of Spain, is a semi-military body



BARCELONA. An integral part of the Spanish police system, the Urbanos or city police are charged only with the control of the traffic



PARCELONA. *Twisted columns and panels in high relief glorify the staircase in the patio of the Casa Dalmau in the Calle Moncada*

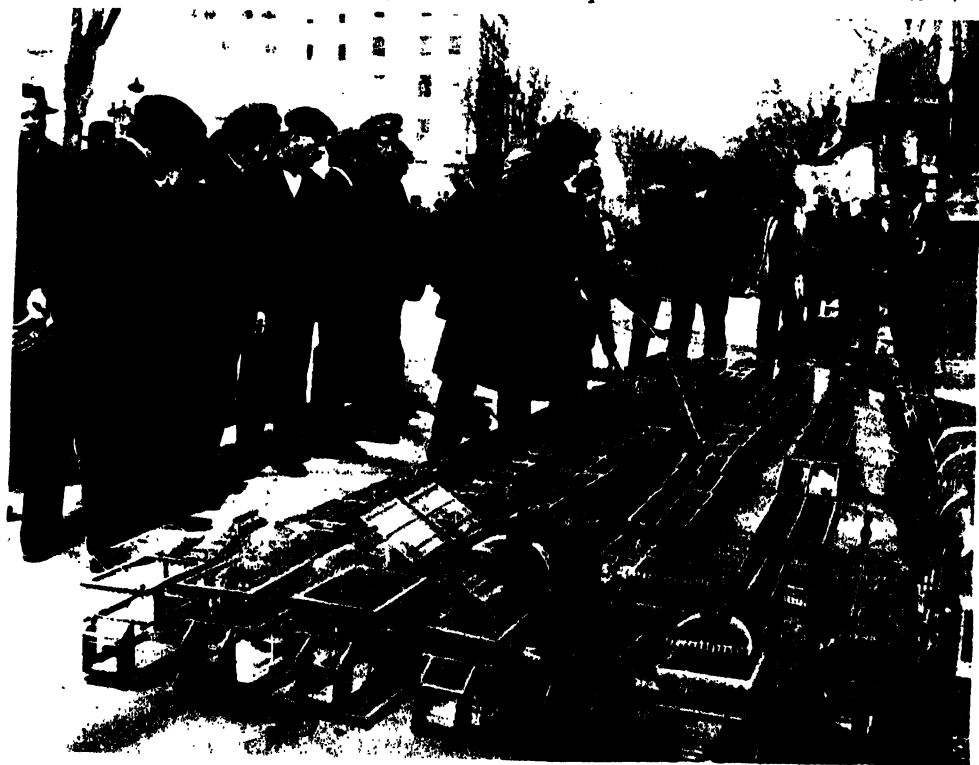


J. LARSEN

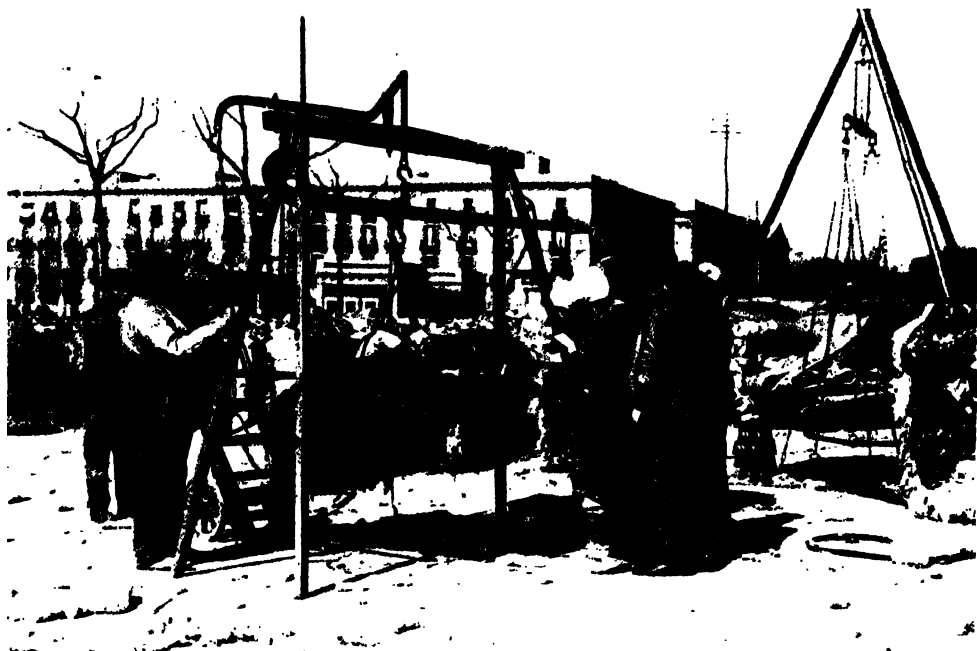
BARCELONA. *Entered by a short stairway, the convent of Santa Clara in the Plaza del Rey was once a palace of the Kings of Aragon*



Beside the fine International Hotel in the plaza named after him the statue of Antonio Lopez faces the broad palm-lined Paseo de Colón



BARCELONA. Caged birds are exposed for sale in the Rambla, the cages being frequently cooled by watering in the heat of the day



The "Manchester of the Mediterranean," Barcelona is Spain's industrial capital. In the cotton market bales are weighed in the open



BARCELONA. Massed displays of fresh flowers make the Rambla de las Flores a lovely way of colour and scent in the early morning



BARCELONA. All the main tramway routes of the city converge upon the central Plaza de Cataluña. This is a magnificent open space planted throughout with palm trees and always full of animation

BARCELONA

The Manchester of the Mediterranean

by Henry Leach

Author of "Spanish Sketches," etc.

BARCELONA is a maritime, commercial and industrial city of first-class European rank, with a population of about three-quarters of a million. Occupying a sheltered position high up on the north-east coast of Spain, it is the capital of a province to which it lends its name, and it is the chief city of the larger region of Catalonia, spreading towards Aragon in the west and Valencia in the south. It received its name and foundation from Hamilcar Barca, the Carthaginian, and is one of the brilliant few that claim construction by the gods.

Most folks visit Barcelona with only one clear notion or piece of information about it, which is that this is the part desiring separation from Spain, and also that it is the citadel of the anarchists, a city where men might wear masks and keep both knife and revolver at their hips, one where the new visitor feels he should "walk in fear and dread, turning not his head, knowing that a frightful fiend doth close behind him tread."

Industry Served by Pleasure

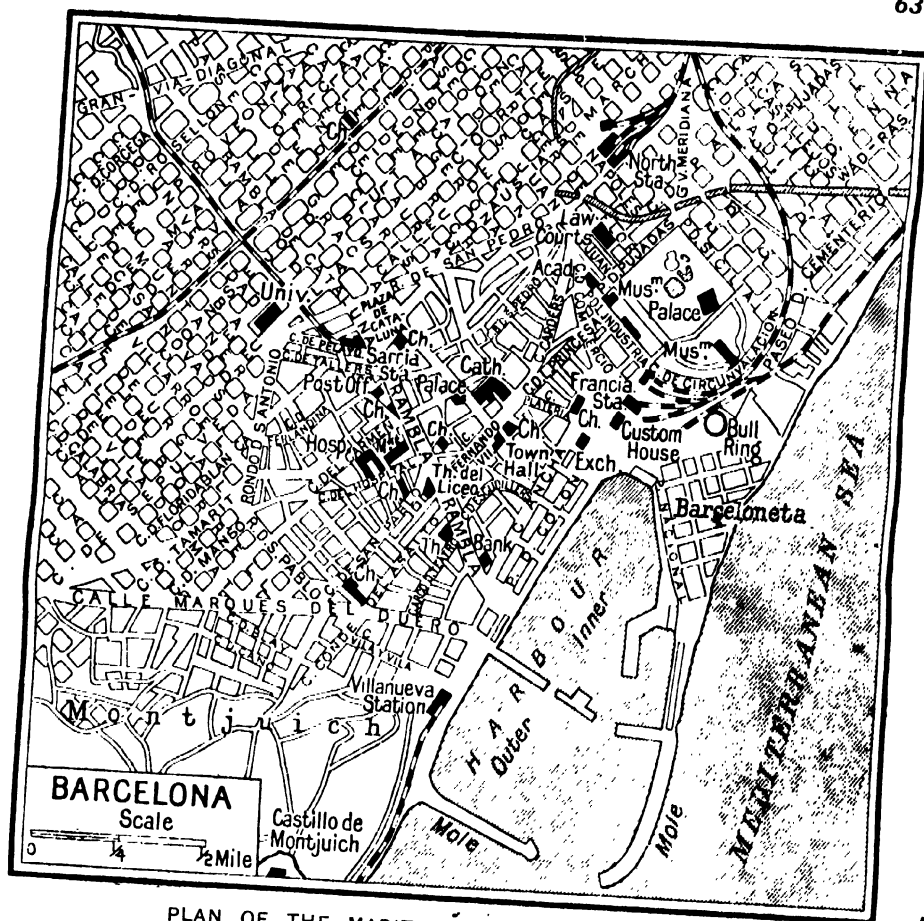
Instead, on the first morning, sauntering down the leafy, flower-laden Rambla, we perceive that this is one of the loveliest streets in all the world, that the people are pleasant, intelligent, keen and busy, that order, method and elegance predominate, that comfort and convenience are well served, that there is a little music in the soft, soothing air and that an atmosphere of peace and beauty envelops all. Barcelona achieves its effects quite naturally and with no preparations whatsoever, for it is above all a place of business and of the pursuits and pleasures that are concomitant to the business life in a successful and well-found community.

It would be wrong, however, to assume that Barcelona is without distinction other than that of successful modern industry and commerce. On the historical side it has done all that a good and great city is expected to have done in the ancient times, and more. Here in the thirteenth century was promulgated the famous code of sea-commerce law known as the *Consulado del Mar*, which served as the maritime standard everywhere.

City of Poetry and Progress

Ages in front of all others Barcelona claims to have invented and worked a steam paddle-ship, with a paddle-wheel at each side and a boiler in the middle. That was in 1543, and Garay was the man, the chief of state being the famous Emperor Charles V., who, being busy with politics, turned it down. While through the ages Barcelona has been busy, keen in its commercial pursuits and prosperous with its riches, it has enjoyed life in its own way. It did a little, but not more than enough, decoration of public buildings; also the Provençal troubadours with their songs of love and war swarmed this way south and found many generous patrons.

Modern Barcelona is not less proud than before, not less ambitious and not less discontented. Beautiful as ever, it glistens on the slope leading gently upwards from the shore towards the hills of Tibidabo, with Montjuich bearing a public park and exhibition grounds on one side, and the *Montañas Malas* on the other. Around are well cultivated areas, villages dotted freely on the landscape, with orchards and gardens in profusion, and, between them and the city, the humming



PLAN OF THE MARITIME CITY OF BARCELONA

suburbs where are established the great cotton mills which are the feature of Catalan industry, with machine factories and other items of advanced production. Here Barcelona turns out textiles, well made and tastefully patterned, in a vast abundance.

Barcelona is the Manchester of the Mediterranean, and in one respect at least it is vastly superior to any other great manufacturing city, for, as though planned by an idealist, it keeps all its mills and workshops away at its outskirts, showing within no chimney or anything that is greasy or unpleasant.

Here we have one of the best all-round climates in the whole of Europe. There are only some seventy rainy days in a year. Rarely does the thermometer rise above 90° F. in the summer,

and two or three degrees of frost at the utmost pressure of winter is the worst known in the way of cold. Snow is very rare. For the most part the climate is mild and suave, sometimes with a noticeable touch of moisture in it coming from the sea, but agreeable nearly always.

At the end of the main street, the Rambla, is the harbour, which, with its 300 acres, is bigger than all the three harbours of Marseilles, and here a quarter of all the maritime business of Spain is done. It is one of the largest and best equipped ports in the Mediterranean, with something like 1,750,000 square yards of enclosed water space and 10,000 yards of quays, well equipped with the best machinery and implements for loading and unloading

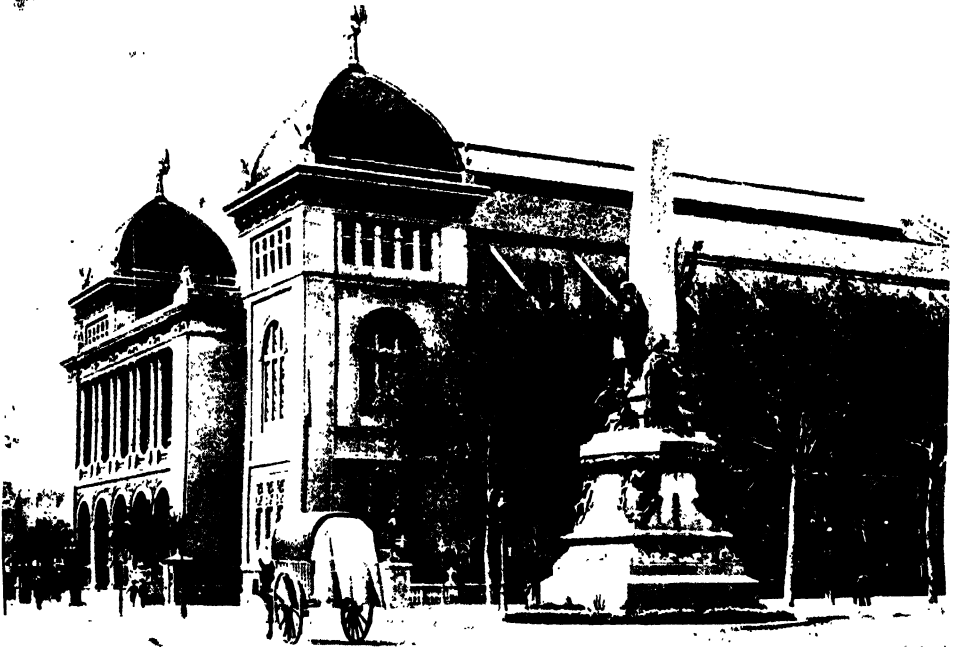
and good warehouses. Coal and raw cotton enter in enormous quantities; wine, oil and cork are shipped away, and from here depart the big ships of a great transatlantic line that maintains a regular service with South America.

Having nearly always been well-to-do or rich, Barcelona has for the most part dedicated its gains to the possession of means of plain comfort or luxury, and taste has not conduced to any pride in exterior display. In the newer Barcelona that has risen northwards and is increasing there is a fine elegance: good roads, shops in the avenue like the best anywhere, pleasant cafés where teas are nicely served with music and young Catalans are in the habit of meeting in the afternoon.

Barcelona also has its cathedral, a fine Gothic creation, standing where once stood a Roman temple and then a Moorish mosque; and it is a good,

well-shaped cathedral with, as the experts assure us, many very bad patches in it. The most is made of its lighting and its proportions are so arranged that it shall convey the impression of being greater than it really is, as to which there is a hint for us before entering, for the cathedral stands high and we rise to the doors by a flight of some eight steps.

One cannot help feeling that, for all its merits, well extolled as they are, the cathedral here is without distinction, and the unvulgar mind is assisted to this negative impression by discovering some time later that a best-remembered feature is the geese that roam and quack in the handsome cloisters where they have a water-basin of their own. This cathedral has to be searched for along side streets, and it does not and could not dominate the view, the air, the life, the spirit of the city, motheringly yet sternly, as do the



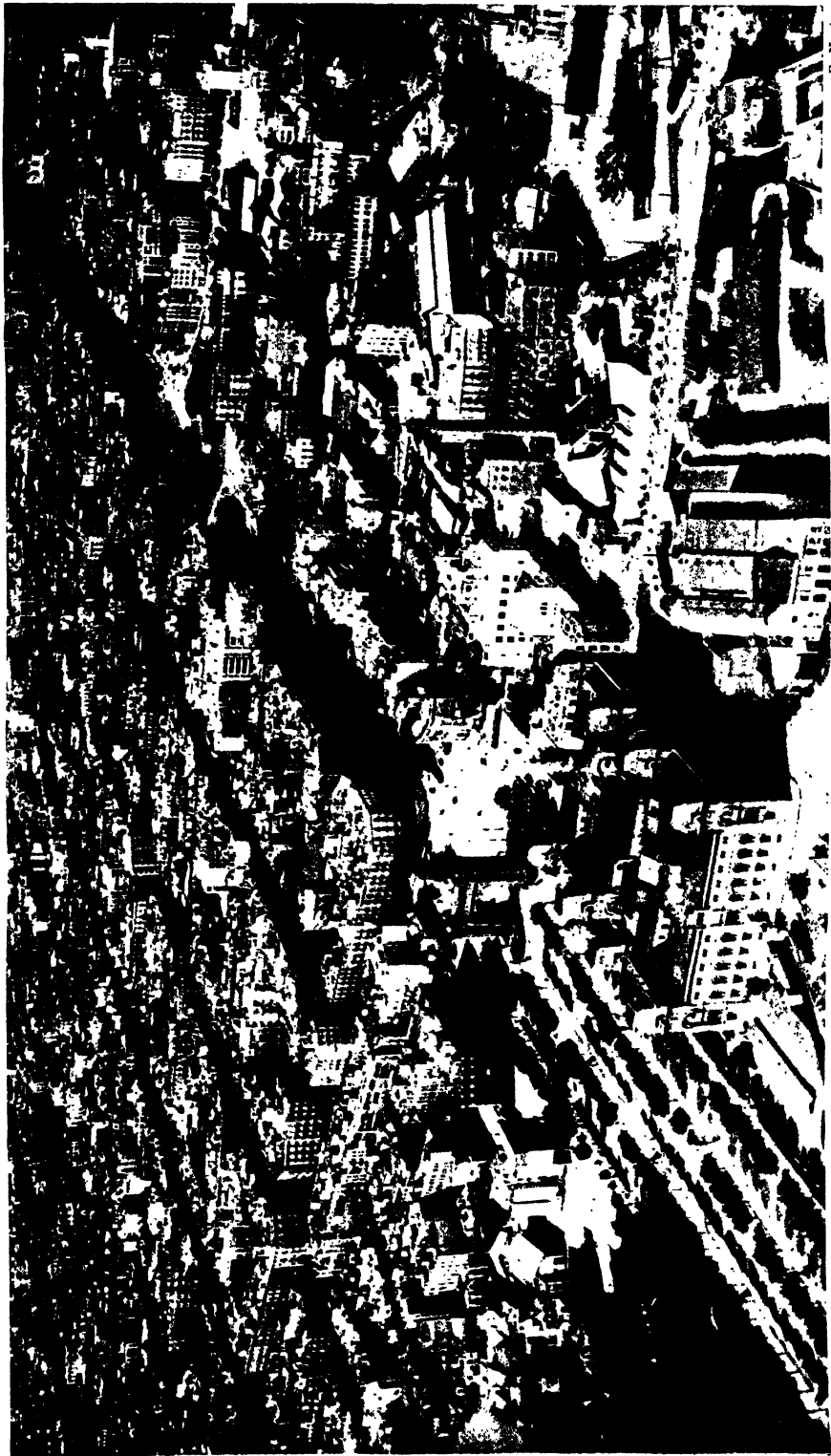
Realistic Travels

PALACE OF THE FINE ARTS SEEN FROM THE PARQUE

Though primarily a city of commerce and industry, Barcelona has by no means neglected the cultural side of its development and can boast many fine buildings devoted to the arts and sciences. The Palace of the Fine Arts graces the Paseo de Pujadas which runs along the west side of the Park; in the foreground is the Taulet statue, a memorial of a former mayor



DARSENA NACIONAL, ONE OF THE THREE BASINS IN THE GREAT HARBOUR, SEEN FROM THE AIR E. S. A.
 Barcelona has one of the largest ports of the Mediterranean with an area of 390 acres. About a quarter of Spain's foreign trade passes through here, the depth of water varying from four to eight fathoms and giving accommodation for the largest vessels. This aerial view shows in the foreground the broad quay called the Muelle de Barcelona, and beyond, the long esplanade of the Paseo de Colón, planted with palms. The Plaza de la Paz, with its huge 200-foot column bearing a statue of Columbus, can be seen by the near corner of the dock and behind it the dark line of the Rambla, the main street



STRAIGHT STREETS AND SYMMETRICAL SQUARES OF THE MODERN PART OF BARCELONA
Seen from the air the newer part of Barcelona has more the appearance of a modern town of a city of Spain, the country so often thought to be unprogressive. Standing at the end of the boulevard-like Saló, de San Juan is the Triumphal Arch with the Palace of Justice immediately below it in the photograph. Emerging on the left of the square are the Ronda de San Pedro and the Calle de Trafalgar. When it passes the Triumphal Arch on its way into the newer, more mathematically planned part of the city, the Sabón de San Juan becomes known as the Paseo de San Juan



LOOKING OVER FROM THE DOCKS TO THE PRECIPITOUS MONTJUICH AND ITS CASTLE

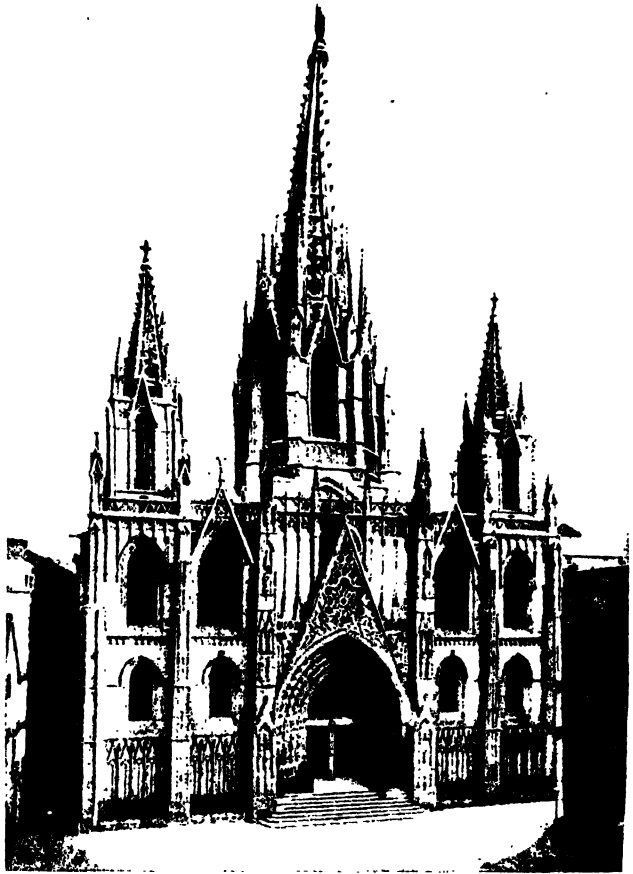
Until comparatively modern times all the harbour seen in this photograph was shut off from the open sea by a great bar. This stretch of sand excluded all but light draught ships, and it was not until 1873 that sufficient progress had been made with mole building to form adequate harbourage for vessels of heavy tonnage. Since then a great area has been embraced by moles projecting far beyond the quayside so as to include deep water within their protecting walls. Beyond is the great mass of the Montjuich, 755 feet above the sea, called Mons Iovis by the Romans and subsequently named after the Jews who dwelt there.

cathedrals of Seville, Santiago, Toledo, Burgos and other cities in Spain. Yet the Catalans are, in the common phrase, thoroughly "good Catholics."

Probing into the nature of Barcelona's expression of her economic power and capacity, we find here more and better opera than in any other part of Spain, even than in Madrid itself. The Teatro del Liceo, on the Rambla, is one of the finest opera houses in the world, well appointed, better in nearly every way than the Real of Madrid, yielding a long, full season during which the classics and occasional good new works are presented by the best singers that Milan and Naples can send to a sympathetic city.

Arriving in Barcelona in the early evening from somewhere down the east coast, one proceeds to a performance of "Manon," and notes again not only the quality of the house and of the production, but the bold, impressive and yet not too ostentatious display of Catalan wealth in the boxes, in the corridors at entering and leaving, and when waiting for motor-cars afterwards.

The male head of the family has the unmistakable air of the highly successful man of commerce—solemn, plain, very substantial; the wife is matronly and elegant to match, and there are daughters and perhaps the son who is in the business also. The social gallant is not absent, but there is a conspicuous lowering of his place and importance as compared with Madrid. The financial status of Barcelona is displayed here at nights most effectively; as at Milan,



FACADE AND SPIRE OF THE CATHEDRAL

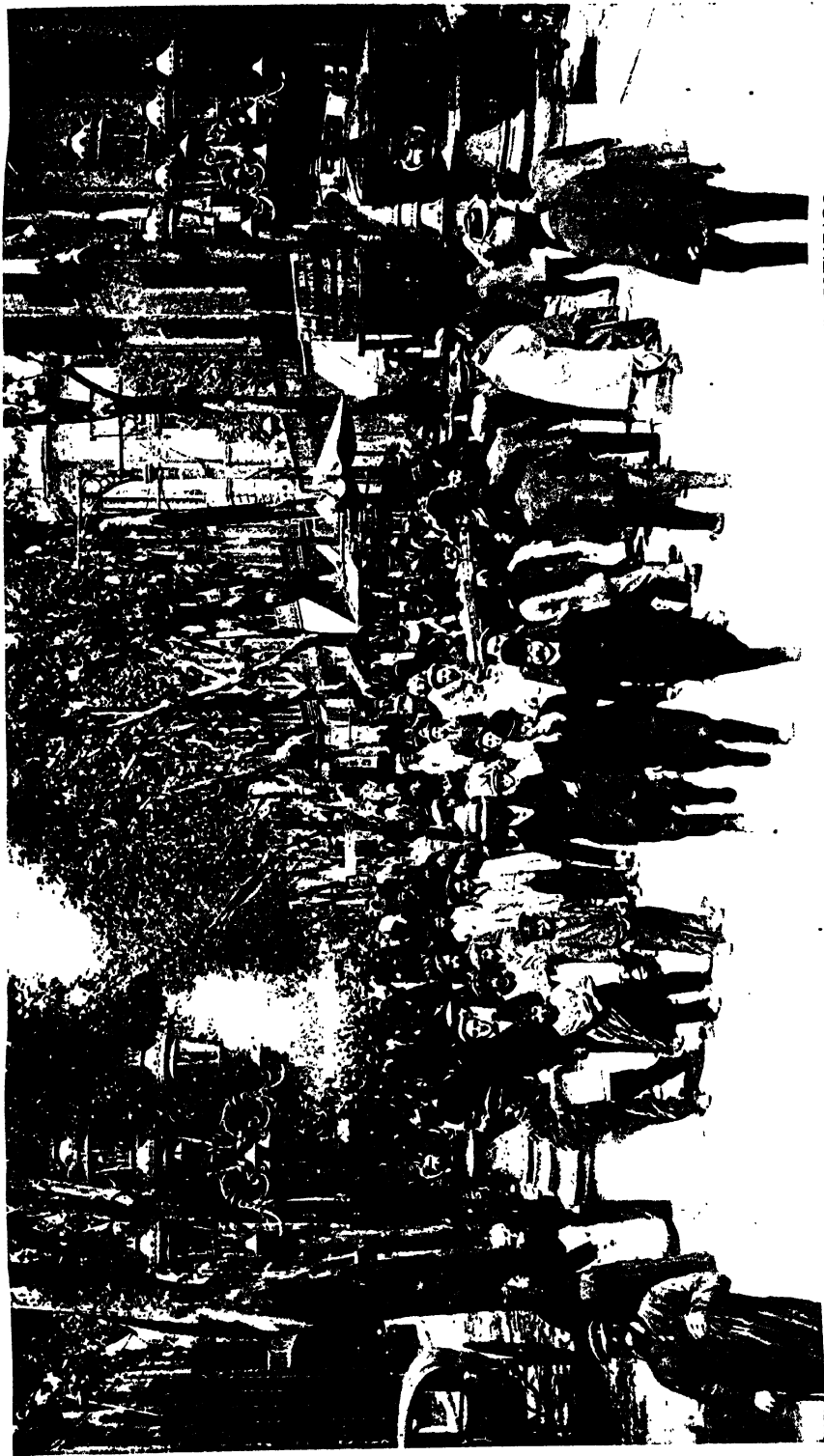
A fine but not quite successful example of the Spanish Gothic style, the cathedral is dedicated to the Santa Cruz, and was built between 1298 and 1448. The octagonal spire is a modern restoration, but the two transeptal towers are medieval

and again in a different degree and with a changed complexion at Manchester, one feels the consoling atmosphere of successful commerce—that business is business and that money talks.

When Barcelona is brought suddenly to remembrance a picture of the Rambla is flashed the first, and rightly, for this famous avenue is unique in character. It is big and beautiful, and running north from the harbour and the great Columbus statue for more than a thousand yards upon what in ancient times was the bed of a stream (the Arabic word for sand is "raml"), it is now the course of life, the spine, the popular promenade of this industrious and well appointed city. There is a broad central

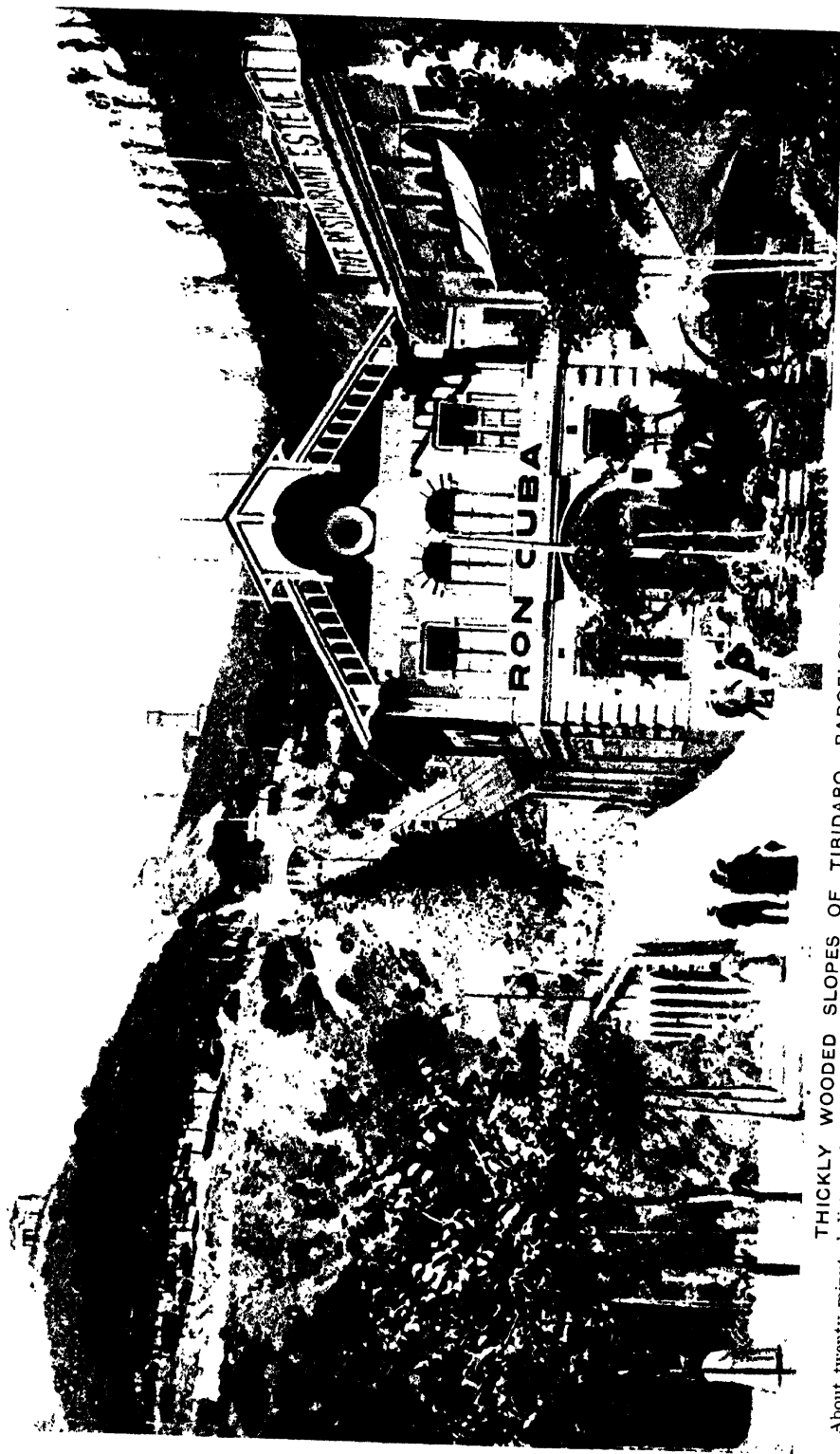


LOOKING UP THE CALLE DEL HOSPITAL FROM THE LLANO DE LA BOQUERIA
 Calle del Hospital or Hospital Lane branches off to the left from the Rambla at the Llano de la Boqueria and finally leads up to the Calle del Carmen and the western parts of the city. The Hospital de Santa Cruz lies on the right-hand side, and this street also contains the fine pile of San Agustín's Church. The whole thoroughfare, narrow and crowded, is one of the original streets of the old city, and is a reminder of the cramped quarters in which the inhabitants were forced to live when the Bourbons enclosed Barcelona with walls in the eighteenth century, to the indignation and inconvenience of the townsfolk.



STREAM OF BUSY LIFE THAT POURS AT ALL HOURS ALONG THE RAMBLA DE ESTUDIOS

What is known in general as the Rambla cuts through the heart of old Barcelona from the Plaza de la Paz by the sea to the Plaza de Cataluña, and is the most popular promenade of the busy city. But its name varies throughout its length: here we are looking northward along the section bordered on the west by the Academy of Arts and Sciences and the Church of Belén, and known as the Rambla de Estudios. It will be seen that the thoroughfare consists of a shady tree-lined promenade in the centre with tramlines and pavements on either side. Beyond the limits of the old town it is continued as the Rambla de Cataluña

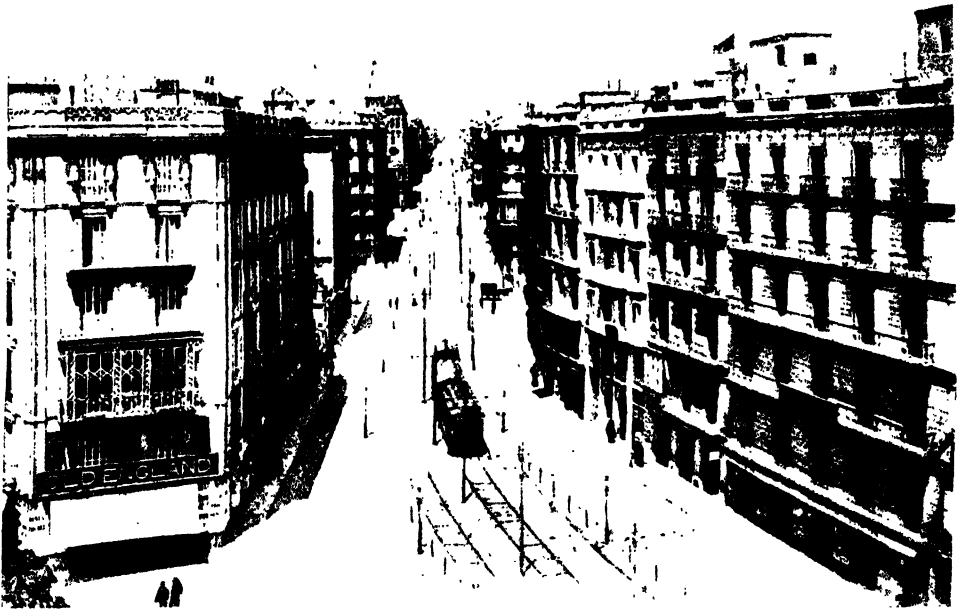


THICKLY WOODED SLOPES OF TIBIDABO, BARCELONA'S HILL OF WONDERFUL VIEWS
 About twenty minutes' distance by tramway from the centre of the city is the Tibidabo hill, the highest peak in the range to the north-west of Barcelona. The ascent is made by a cable railway about three-quarters of a mile in length, and the view from the top is particularly fine—in clear weather the peaks of the Balearic Islands may be seen, while inland Montserrat and Montseny may be distinguished with the Pyrenees hazy in the distance to the north. Among the buildings on the hill are an observatory, the water tower of the city's reservoir and a restaurant.

asphalted walk down which half a dozen careless youths might swing along abreast at eventide—and often do—and at each side there is a track for trams, then the sidewalk and the shops. The middle avenue is bordered with trees, and has kiosks—where the display of London and Paris newspapers is greater even than those of Madrid—and elegant booths for refreshments and iron stands for the displays of the flower-sellers.

emotions for the sweet pathos of it all, and I know of no display to equal just this section of a hundred yards or more in which the flower stands are ranged in order on each side, with the order, like good art, concealed.

Here with the sun of a morning arrive comely, nicely mannered Catalan women and girls with their baskets of roses, of carnations, of pure lilies, of the flowers of seasons, flowers of golden



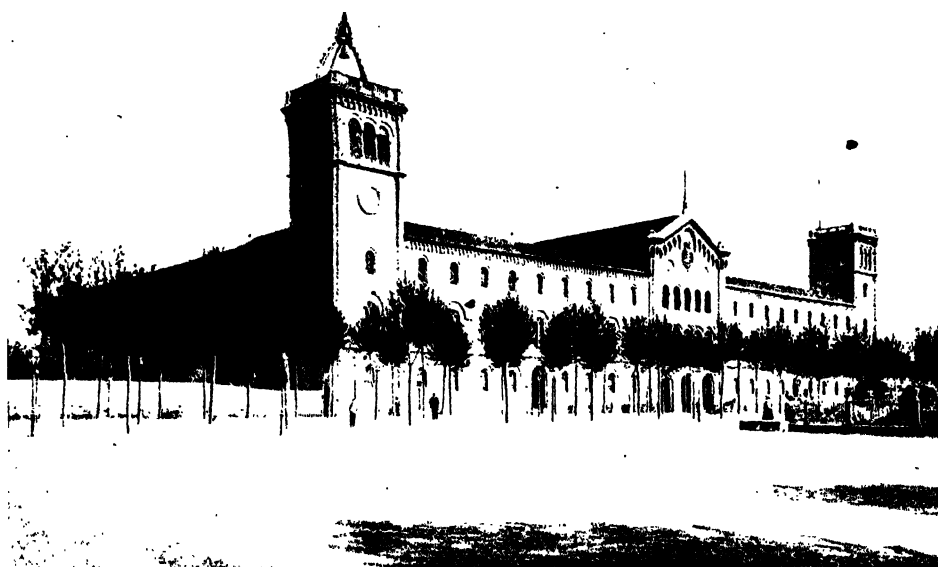
ONE OF BARCELONA'S FINE STREETS THAT RISE GENTLY TO THE HILLS

Barcelona is built upon a somewhat uneven plain which is tilted slightly towards the sea. Thus one may often get a glimpse, such as this, of the distant heights of the Tibidabo hills or of the Montañas Maras along one of the many fine roads that run north-westward from the Ronda de San Pedro. Here is seen one of the newer quarters; in the central parts the ways are more crowded

The avenue varies its name at different stages. In its beginning it is the Rambla de Santa Monica, then it becomes the Rambla del Centro, and next the Rambla de San José, which is official, while the popular and better title for this section is the Rambla de las Flores. San José is very well, and the splendid covered market just back from the Rambla on the left also takes the name; but what of the flowers in the morning here in the Rambla de las Flores? Such mass displays of lovely blooms, fresh from the gardens, brought alive to the stony cores of cities, touch our

yellow to purple, greenery for natural harmony, ravishments of colour and beauty, and the women deck these stands with wifful skill fostered by long experience. The schemes of colour blending and contrast, the arrangements, and the neatness and politeness of the women and girls make our morning walk along the Rambla a thing we would not willingly miss.

Higher there is the Rambla de Estudios, and then of Canaletas, and so out into the big Plaza de Cataluña, with the broad avenue of the Paseo de Gracia leading from it on the other side, the



J. Laurent

PRESENT HOME OF BARCELONA'S ANCIENT SEAT OF LEARNING

Barcelona has been a university town since 1430, with the exception of a period (1717-1812) during the Catalan oppression, when the seat of learning was transferred to Cervera by Philip V. The building seen above, however, is fairly modern, having been completed in 1873; it lies on the western side of the Rambla, and is reached from the Plaza de Cataluña by way of the Calle Pelayo.



J. Laurent

RESIDENCE OF ONE OF BARCELONA'S COMMERCIAL MAGNATES

Inside the result of the walls (now vanished but marked by broad thoroughfares) is the old Barcelona of irregular streets, haunts of business and fashion; without, the town is regularly planned in square blocks. The Ensanche, as these districts are called, are mainly residential with fine avenues and modern villas, of which this one, situate in the Calle de Claris, is an example in the Moorish style.

long Calle de las Cortes intersecting that Paseo and running eventually into the Plaza de las Glorias, while from the Rambla along the left of the Plaza de Cataluña goes the Calle de Pelayo, where are the newest shops, quite as smart and elegant as those of any other great city that we know.

When I have cited the Paseo de Colón running along the bottom of the city from the big monument, and mentioned that streets of importance branch off from either side of the Rambla, notably the Calle Fernando VII. which leads on to the quarter where the town-hall (Casa Consistorial) and the cathedral may be found, we may be done with special streets and can return to praise the Rambla, which by day is beautiful and by night is lively, with the best cafés and amusement halls alongside.

One other feature of Barcelona that leaves a strong impression upon the mind after parting from the city is the lofty Tibidabo hill to the north-west of the city and reached by street car to the foot thereof, and the funicular afterwards. There are various items to be noticed at the summit. There are a chapel, a restaurant, a revolving wheel arrangement with cars attached to it by which he who is yet unsatisfied may rise a little higher, and there is a man with a telescope through which you may see the time on a big clock at Barcelona, and specially notice from here, as from nowhere else, the well-ordered manner of straight lines and squares in which the newer city has been planned and made.



J. Laurent

BARCELONA'S CHIEF THEATRE, IN THE RAMBLA
In that part of the Rambla called the Rambla del Centro is the Teatro Principal. It is the headquarters of the drama in the city as is the Teatro del Liceo for opera. Opposite is the Calle de Escudillers, the main business street

But one should finish soon with these, that the traveller's soul in easy, contemplative tranquillity may enjoy one of the richest panoramic views in Europe. There are compact villages dotted everywhere upon the land, eighty of them, blue sea beyond the city, with the Balearics in sight on a clear day, the Pyrenees on the northern horizon (from whose waterfalls shrewd Barcelona gathers electric power for its purposes, as also it does from the rivers), and away in the west the wild craggy peaks of Montserrat, where is the famous monastery, which is but one or two days from Barcelona. But though it be awesome at the monastery, it is not better than seeing from Tibidabo a sunset burning round Montserrat.



TRIBUTE TO COLUMBUS IN A SEAFARING TOWN

Erected in 1888, the monument to Columbus in the Plaza de La Paz, opposite the Rambla, is liberally encrusted with reliefs and symbolic statuary, and a lift ascends within it to the gilt ball on which stands the effigy of Columbus himself.

Characteristics of the Catalans need not be stressed; one sometimes finds that national peculiarities are more easily described than discovered in the flesh. Generalisations are apt to be misleading, but I would say of the Catalan that, as a man of sense, work and business, he has more pride and self-respect than the dallying Castilian, did I not remember my own thoughts upon the Castilians having more pride and self-respect than any others. Business is the keynote always to everything in Catalonia, especially Barcelona. The people are active and their cupidity is strong—they are ‘on the make.’ Like others who work and earn, they enjoy comforts.

They are not decorative; their costumes are not picturesque; they look more like the English than the Italians, week-days and Sundays too.

Intellectualism is less noticeable than in Castile, though education is better, and the city is well equipped with institutions. Catalonia is producing a few fine artists who take high honours in the Spanish exhibitions. In portraiture and figure studies, Julio Moisés made a reputation that will pass far from Spain, and the landscapes of Joaquín Mir and Santiago Rusiñol would catch attention in the best of salons. I found at a recent national exhibition at Madrid that out of 364 artists represented, 99 were born in Madrid or near it, 52 in the region of Barcelona and 43 in Valencia. Young Catalan poets are busy with their pens, but neither they nor the novelists are a power in the land as yet.

On the other hand, two of the most popular and justly celebrated stage players of all Spain, Margarita Xirgu and Enriquè Borrás, are Catalans. Most playing in Barcelona is done in the Catalan dialect, and Margarita Xirgu once explained to me the difficulties she had in learning Castilian—or ‘Spanish,’ as we would say—after being brought up on Catalan, which she had to do ere she could practise her profession outside Barcelona.

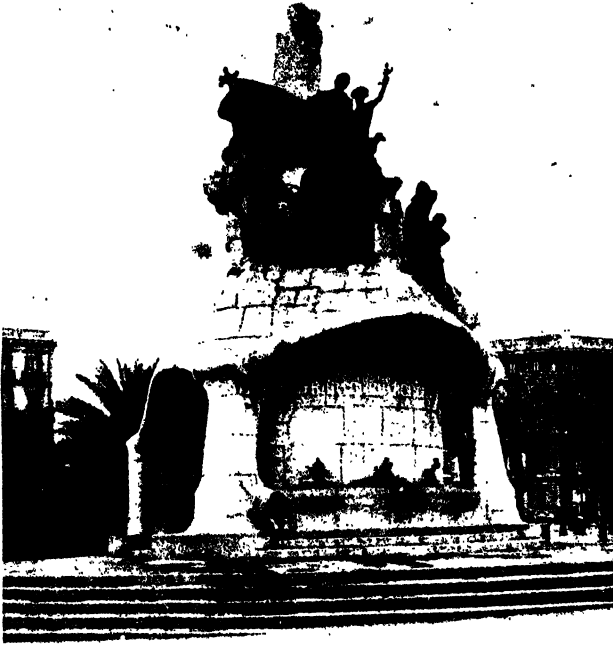
In some of these points the difference between the Catalan and the Castilian may be discerned, business being business, and ease after hours a demand. It must be remembered always that



Ernest Peterffy

CATALAN INDIVIDUALISM ASSERTS ITSELF IN ARCHITECTURE

Barcelona lies within the ancient province of Catalonia, which has ever been one of the more individualistic of the Spanish states. It still retains a distinctive dialect. Even a special form of building has been introduced as seen in this block of flats, said to be unique in Spain. It is built of stone, the architect being Antonio Gaudí, designer of the Sagrada Família Cathedral



IN COMMEMORATION OF A GREAT CATALAN

Ernest Peterffy

The strange Catalan architecture, also seen in page 643, is exemplified in this pedestal. The monument, in the Plaza de la Universidad, is to Bartomeu Robert, the great leader of the Catalan party who died in 1902

a large proportion of the better class of Catalans are self-made men or come from self-made fathers, and the class below teems with those who hope to make themselves. The average mill-owner began as an operative, or his father was one. A start in individual effort was made with a hand-loom or two, then more and more were added, power was applied, the mill appeared, it grew, and that is the story.

As to the great political question, separation in some form from the rest of Spain, I do not think it fills the mind of the average Catalan to the extent it is supposed to do. It is a matter of politics, and consequently of exaggerations. The great Catalan industrialists and capitalists, finding themselves so much out of sympathy with and irritated by the rest of Spain that does not understand so well that business is business, might like a new and more.

self-controlling arrangement, but when one listens to speeches two days long in the Cortes in Madrid by such an exponent of Catalanism as Francisco Cambo, new thoughts arise. During effervescences of separatist feeling young Catalans have formed the ingenious idea of addressing letters to the capital as to "Madrid, Spain," or saying to one another that "the post from Spain has come in," and, as the law forbids the use of Catalan for official purposes, these ardent separatists have been known to send telegrams to Madrid in French rather than write them in Castilian.

But when I have wandered in other parts of Spain, enjoying the sense of being something near a hundred years behind the times, taking discomforts

for delights, ruminating among austerities, making studies of crimson, sienna and old gold, I am glad to look in on fair Barcelona when going home, and no visit to Spain is nearly complete without a call upon this city. One parts from Valencia with its long streets of little shops, its quasi-Italian courtyards and its Levantine flavour, and later one leaves Tarragona, solid, stiff and sombre, as if the Romans were still in occupation there, and then passing on the railway into Catalonia, suddenly there is a difference.

Progress appears! The first sign of it is in the cultivation, and the second in the railway stations, which are so much better than in other parts of Spain. Then in the hotels of Barcelona there is quality and fair charging. Living is cheaper than in any other city of Spain, because in Barcelona business is always business.



BELGIUM. *From the Belfry of Bruges wide vistas of Flanders are visible. This westward window frames the cathedral of S. Saviour*

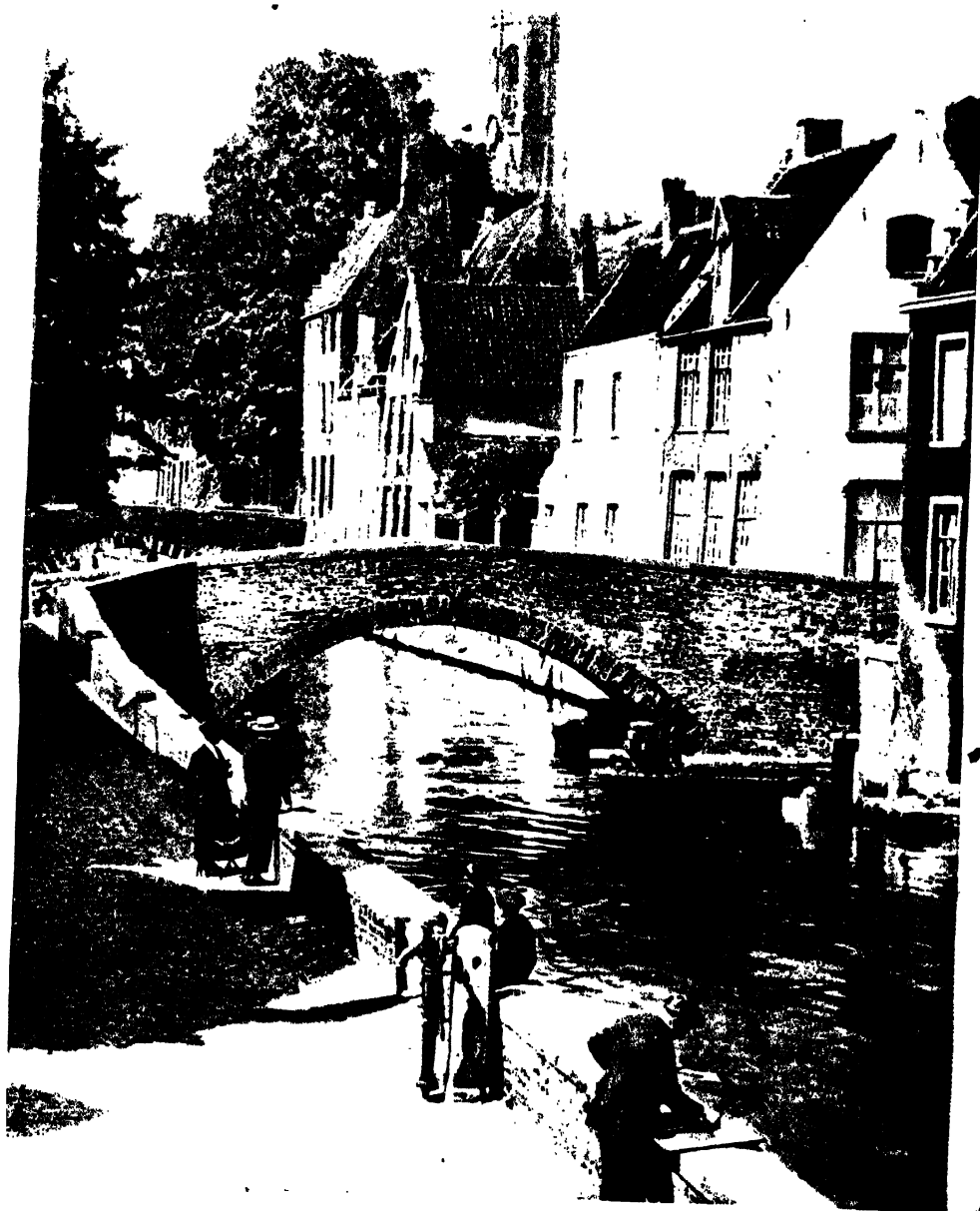


FIGURE. *Quichude has its home beside the Pont Cheval on the
i Foot of Bruges, where swans float on the Roy's sleepy stream*



W. D. J. 111

BELGIUM. From any angle the Quai du Rosaire is the best place to study the old domestic architecture of the inner town of Bruges.



BELGIUM.
auto says

*Ill over the great flat plain of Flanders a very network of
stretched, dotted with windmills and bordered with poplars.*



C. L. F. O. K. S.

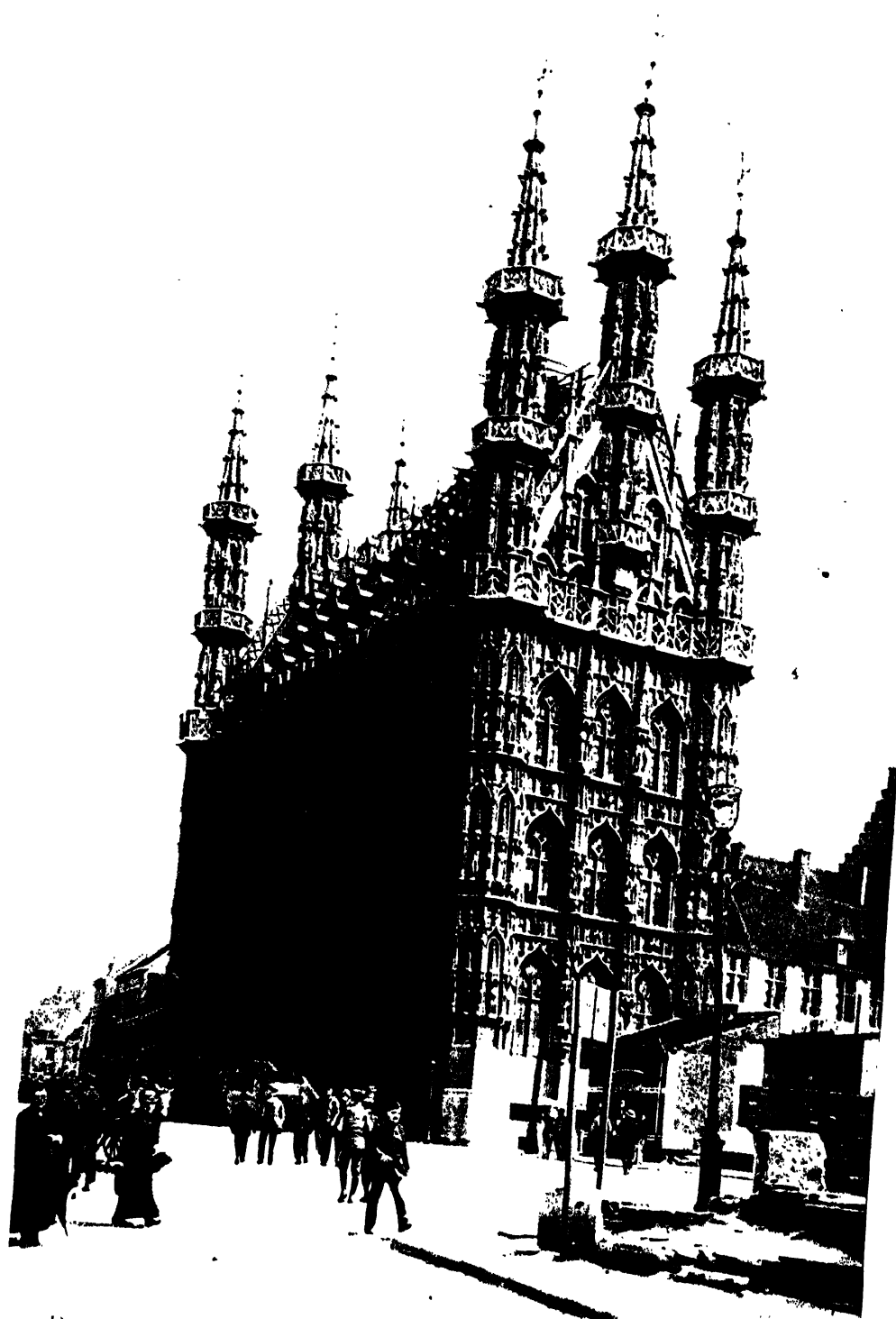
This quiet reach is on the canal that runs between Bruges and Damme, a mere village now but once the fortified port of the capital of West Flanders



BLICUM. Founded in the thirteenth century the Beguinage of the Vinyard is still the home of gentle
 charity in Bruges. It is a beautiful example of a medieval town.



BRISTOL. View of the town from the water. The church spire is the highest point in the town. The water is very deep and the harbor is very safe.



BELGIUM. *A miracle of turrets, pinnacles, statues, tracery and delicate ornament, the little Hôtel de Ville is the chief glory of Louvain*

Donald McCulloch

BELGIUM

Its Historic Plains & Wooded Uplands

by Charles Sarolea, D.Ph., D.Litt., etc.

Professor of French Literature, Edinburgh University

BELGIUM, of all European countries, is, perhaps, the most ideal object lesson for the student of what one might call "human geography." It is preeminently a land of political, social and economic experiments. No country shows more clearly the interactions between man and nature. Whereas in other countries it is nature which has transformed man, in Belgium it is man who has transformed and conquered nature.

Politically the Belgian kingdom is a paradox. It constitutes neither a geographical unity like Switzerland nor a racial unity like France. Its boundaries have shifted from age to age. It is divided into two unequal parts which are different in almost every respect. There are three million Flemings who cannot understand their Walloon brethren, and there are nearly three million Walloons who cannot understand the Flemings. And yet Belgium has an unmistakable national unity. The great Belgian historian, Henri Pirenne, has proved from the cumulative evidence of history that a Belgian nationality does exist, and always did exist, that there is such a thing as a strongly-characterised Belgian type. And those conclusions have been strikingly confirmed by the Great War, and by the intense patriotic feeling which it revealed.

Ancient and Original Culture

It is therefore a superficial view and a gross mistake to look upon Belgium, as is often done in Great Britain, as a young country which was created in 1831 by the Concert of the Powers. Belgium is, in fact, one of the oldest of European nations. Bruges was already the Venice of Northern Europe when

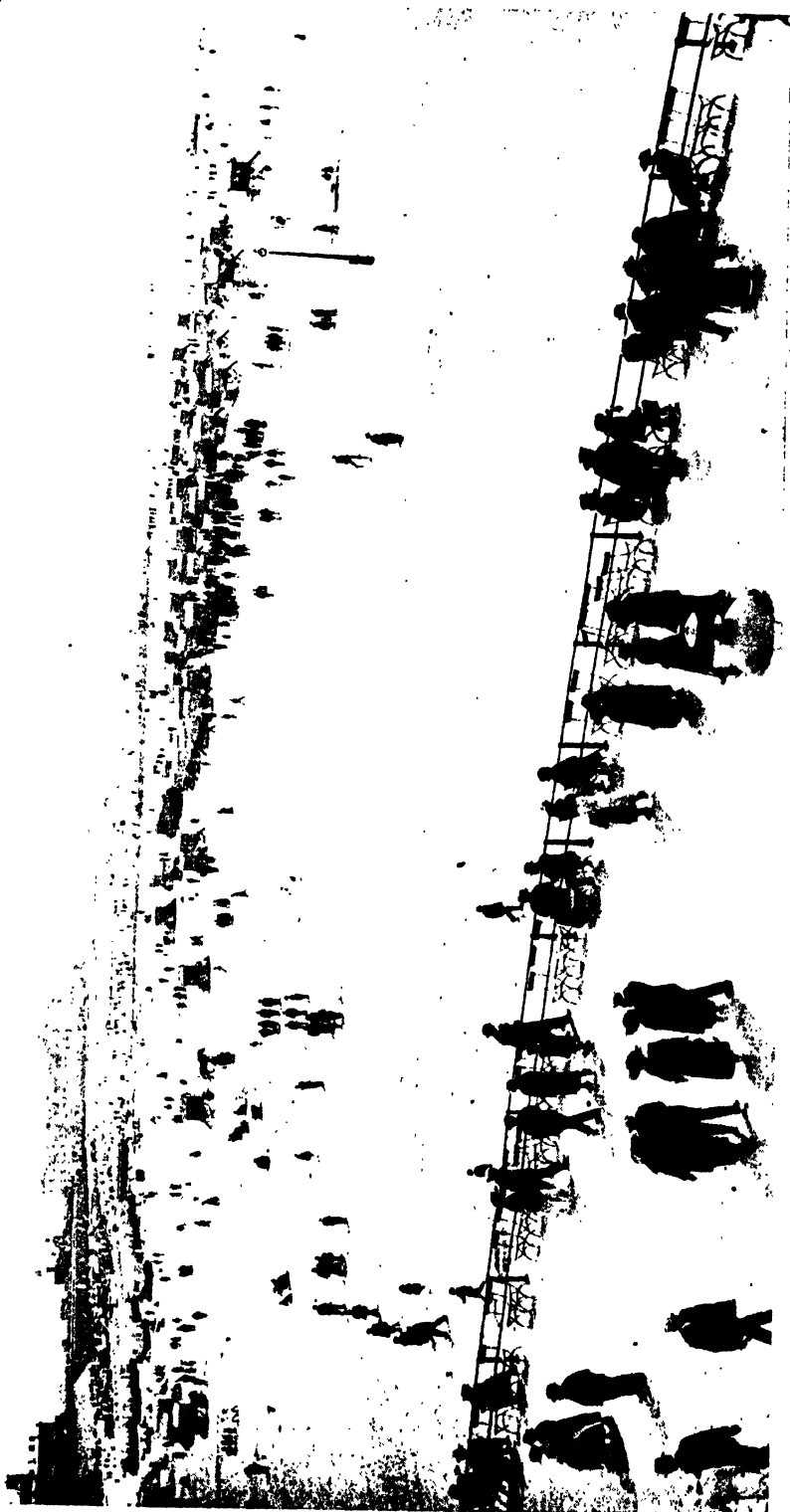
London was still a big village. For many centuries the Belgian people have produced a common and original culture. That culture has been municipal and not feudal; it has been democratic and not aristocratic. Belgium, in the past, has been mainly a federation of self-governing cities. And it is significant, as every tourist can verify for himself, that it is its municipal monuments, its town-halls, its guild-halls, its belfries, its market-places, which are typical of its national architecture.

Contrasts in Configuration

The duality of Belgium is reflected in its physical aspects. The flat country of the north and the hill country of the south are divided by the Meuse. The Belgian alluvial plain is the continuation of the vast North European plains of Russia and Prussia. The hills of the Ardennes are the continuation of the mountainous range of the Rhineland.

The same duality is reflected in the river system. There are two main Belgian rivers, the Schelde and the Meuse. The sluggish Schelde may be described as the river of the Flemish Lowlands, whereas the impetuous Meuse, breaking its way through the mountain ranges of the Ardennes, may be called the river of French Belgium. Most of the historical towns of the country are situated on these two rivers. Ghent is situated at the junction of the Schelde and the Lys. Namur lies at the junction of the Meuse and the Sambre, Liège at the junction of the Meuse and the Ourthe; Antwerp commands the mouth of the Schelde.

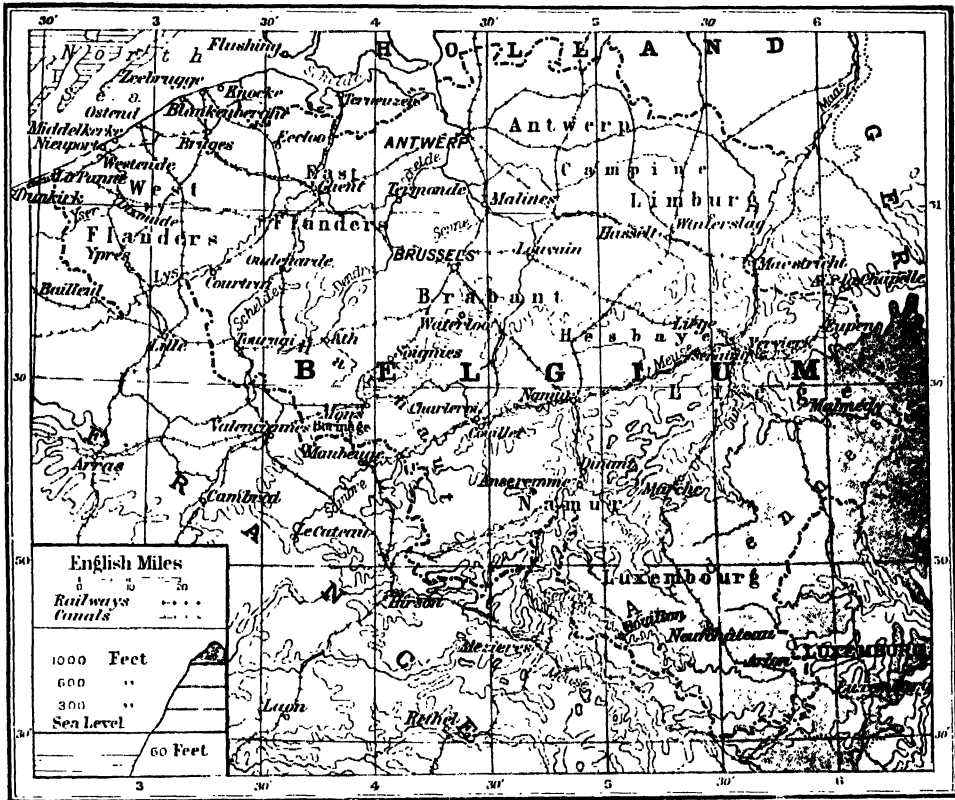
The Meuse with its affluents, the Sambre, the Lesse, the Ourthe, the Vesdre and the Semois, includes by far



Horace W. Nieholls

OSTEND'S WIDE SANDS THAT HAVE MADE IT THE GREAT BATHING RESORT OF BELGIUM

Ostend lies on the flat sandy coast of West Flanders about 14 miles to the west of Bruges from which run both a canal of considerable commercial importance to the country and a railway. Its port, its accessibility and its fine beach have together made it one of the most cosmopolitan and frequented towns on the whole North Sea littoral. A promenade, part of which is in the foreground of this photograph, is known as the Digue and runs along the water front for three miles. Besides the bathing, there are a kursaal and a racecourse to attract the visitors whose numbers grow yearly.



PROVINCES OF BELGIUM AND THEIR SYSTEM OF CANALS AND RAILWAYS

the most beautiful scenery of the country, and the hills of the Ardennes contain the most accessible and the cheapest tourist resorts, although the rich plains of Flanders and Brabant have a beauty of their own, and although even more than the Walloon provinces they have inspired the greatest national painters of Belgium.

Belgium's coast line is very small, being only about 40 miles in length; part of it lies below sea level and has been reclaimed in comparatively recent times. During the Great War, the left bank of the Yser was inundated and constituted the main line of defence of the Belgian army.

The climate is approximately the same as that of the south of England and the north of France. It is cloudy and rainy, and there are only about twelve days of unbroken sunshine in the year. The temperature is variable, September generally being the only

steady month. Compared with the English climate the Belgian climate is rather colder in winter and warmer in summer. The temperature in the south is three degrees colder than in the north.

Belgium has great natural resources. In mineral wealth it is one of the richest countries of the Continent. It has an abundance of iron ore and zinc. Its vast coal-fields follow in an almost uninterrupted line the valleys of the Sambre and the Meuse from the French to the Dutch frontier. Within the last few years additional coal deposits have been discovered in the province of Limburg which have already transformed the moorlands of the Campine into a thriving industrial area. The Belgian "Black Country" is probably the densest industrial area of the world.

The country is equally rich in agricultural resources, abounding in every variety of agricultural produce. Yet allowing for the bounty of nature, it



Aerofilms, Ltd.

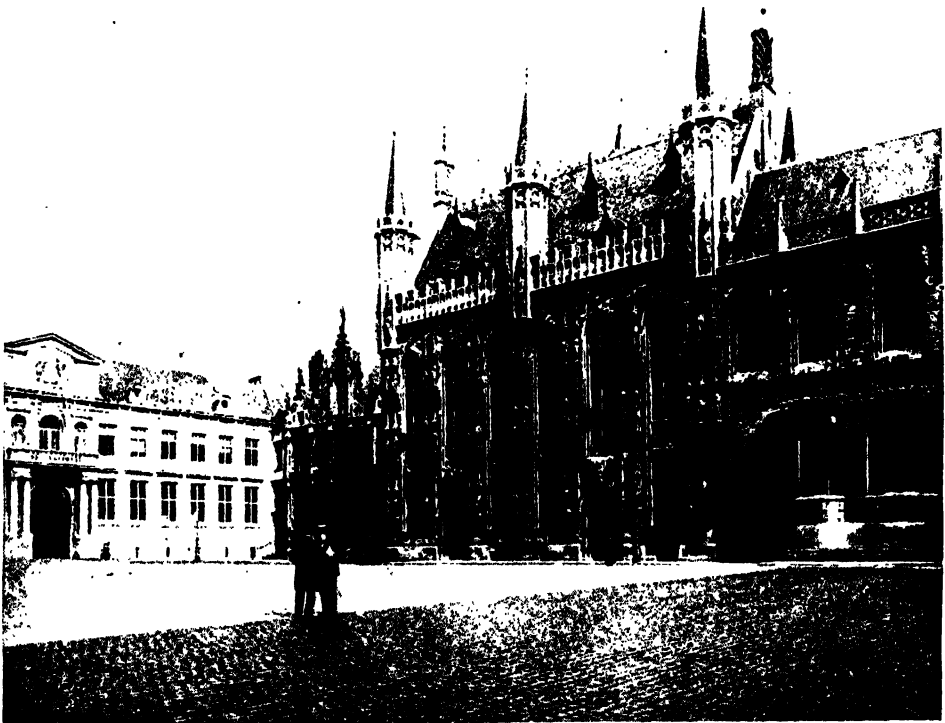
AIR VIEW OF OSTEND PORT: THE FAMOUS MOLES AND ENTRANCE TO THE BRUGES CANAL

This photograph shows a part of the Nouvelle Avant Port. Running inwards from the top left-hand corner is the Bruges Canal and between it and the main harbour are the three white platforms of the Station Maritime, where passengers from overseas disembark. From this point the Bassins du Commerce stretch across the view from left to right and near their central point the spire of the Gothic church of SS. Peter and Paul stands high above the town. Between the dock-side and the houses is the Quai des Pêcheurs, the open space half-way along it being the Place des Pêcheurs.

remains true of Belgium, as of Holland, that its agricultural wealth has been mainly the creation of human labour.

Originally the Flemish Plain, and especially the north-eastern part of the Campine, was a desolate expanse, almost as barren as Brandenburg and Pomerania. Even to-day you can walk for hours in the provinces of Limburg and Antwerp over a boundless expanse of unproductive sand.

smiling market garden and a flower garden, even as the Walloon south has become a beehive of industry. The land has been improved out of all recognition by the hard toil of the small peasant proprietor. The climate is never too hot nor too cold for work in the fields. Belgium verifies the dictum of Arthur Young that "the magic of property is able to transform a desert into a garden."



W. H. Smith, Brussels

CIVIC SPLENDOUR OF THE OLD BURGHERS OF BRUGES

On the south-eastern side of the Place du Bourg (a short way to the east of the Grand' Place of Bruges) stands the fine Gothic town-hall adorned with statues of the successive counts of Flanders. Begun in the middle of the fourteenth century, it was finished in 1421 and restored in 1851. On the left is the old record office, now used as a law court, and at right angles the Palais de Justice

The northern sections of the provinces of Antwerp and Flanders were once a marsh. The province of Brabant was once a dense forest, of which the forest of Soignies, between Brussels and Waterloo, is an impressive remnant. But the Hercynian forest has been cleared, the marshes have been drained, the sandy plain has been manured and to-day the Flemish provinces have become a

If the test of a country's prosperity is to enable the largest possible population to live on the smallest possible space, then Belgium may justly be considered one of the most prosperous countries of the world. It is more densely populated than China. Its 7,600,000 people are spread over a small area of 11,000 square miles. Three-fifths of the population are



Horace W. Nicholls

ONE OF THE THREE GREAT TOWERS THAT DOMINATE BRUGES

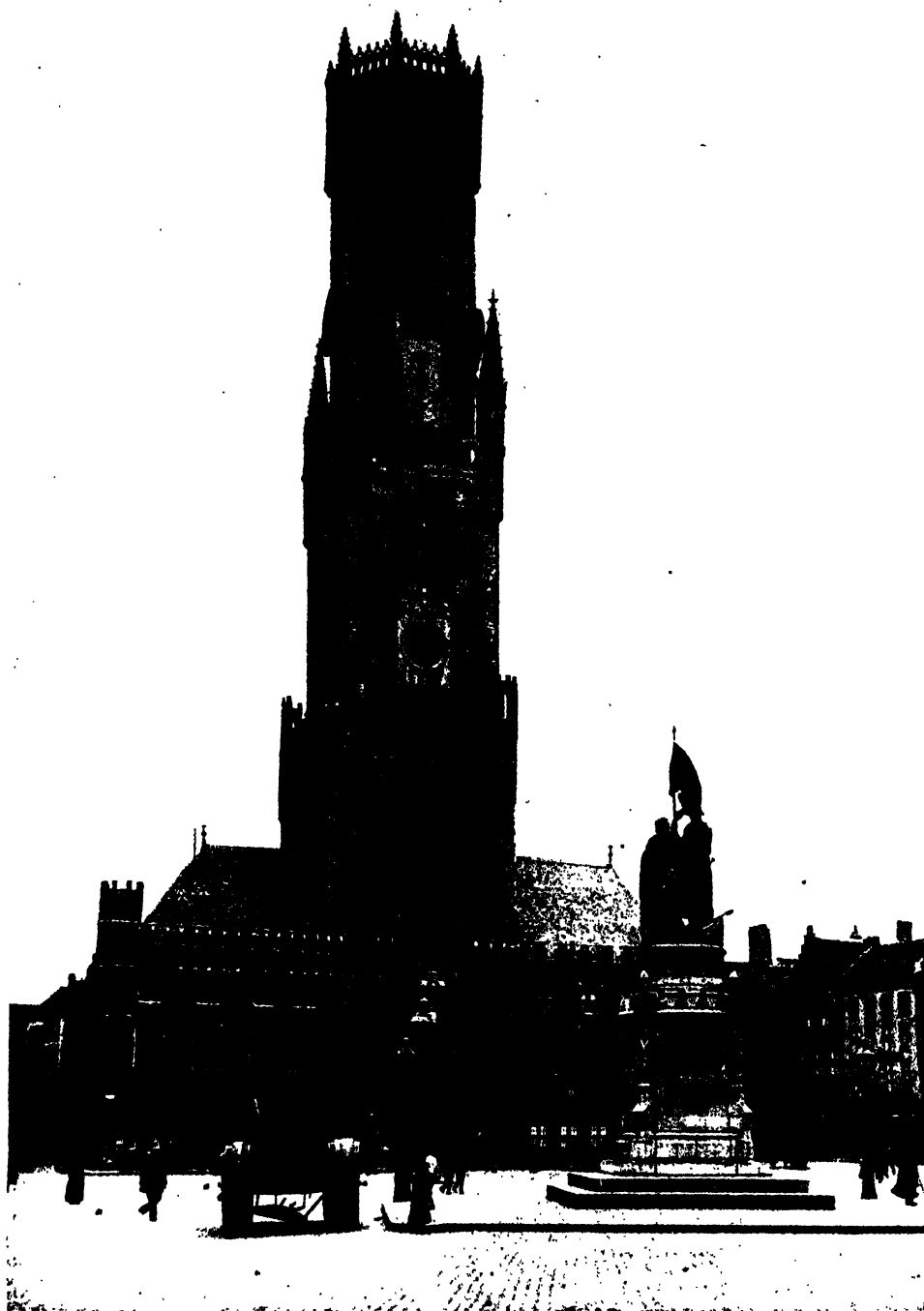
Leading from the Grand' Place westwards, the old Rue des Pierres affords a quite impressive view of the cathedral tower, which, seen thus above the clustering roofs, loses some of its ungainliness. Narrow though it is, the street is one of the main business thoroughfares of Bruges, which is regaining its old prosperity since the construction of the canal to Zeebrugge.



W. H. Smith, Brussels

CHURCH OF S. SAVIOUR AT BRUGES, NOW A CATHEDRAL

Compared with such secular buildings as the Belfry and the town-hall, the cathedral at Bruges (dedicated to S. Saviour) is a cumbersome and unpretentious edifice without, having elements of all periods between 1116 and 1871. The Romanesque lower half of the tower is the oldest. Within, however, the proportions are exceptionally fine and numerous art treasures of great worth are housed there



Donald McLeish

STATUES OF OLD GUILD-MASTERS BEFORE THE BELFRY OF BRUGES

Known as the Tour des Halles, the famous Belfry of Bruges in the Grand' Place towers to a height of 352 feet above the city with a slight inclination to the south-east. The octagonal upper storey dates from the end of the fifteenth century but the two square stages below were begun quite 200 years earlier, after a fire in 1280 that destroyed a still older structure on the same site



Donald McLeish

GHENT'S MINSTER AND HER TRIBUTE TO HER ILLUSTRIOUS SONS

Ghent has many old buildings in the Flemish style, but foremost of all its public edifices is the great cathedral of S. Bavo. Though externally plain, the great church is richly decorated within and contains the famous "Adoration of the Lamb" by the brothers Van Eyck, who made Ghent the centre of Flemish art and whose monument is seen on the right. Behind is the fourteenth century Belfry



W. H. Smith, Brussels

WHERE GHENT DID HOMAGE TO THE COUNTS OF FLANDERS

It was in the Friday Market that the great events of Ghent took place; here the guildsmen—"the hard-heads of Flanders"—assembled to protect their rights, and here, too, Jacques van Artevelde raised the citizens against the Count of Artois. His statue shows him delivering his speech in favour of the alliance with England. The extensive square surrounding it is planted with trees.



C. Uchter Knox

RELICS OF THE MIDDLE AGES IN MODERN BELGIUM

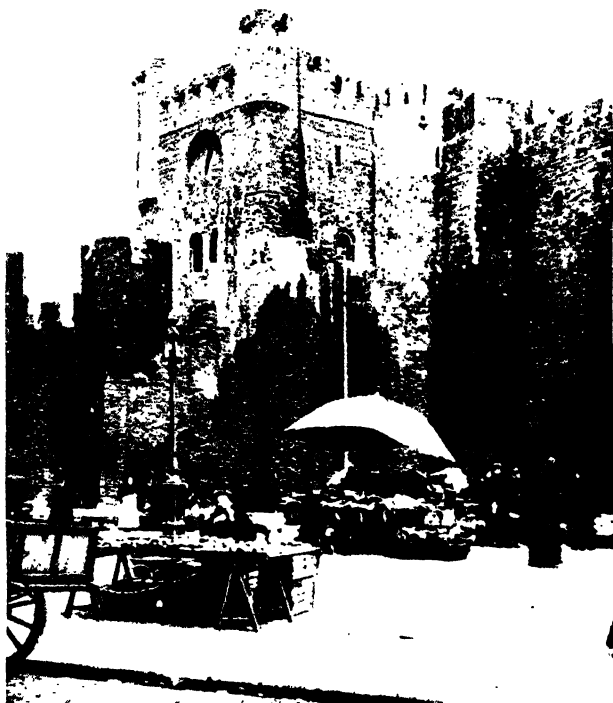
All through medieval times the burghers of Ghent were famous for their turbulence; their ancient guilds were powerful, well supported and wealthy. These societies built for themselves guild houses similar to those in Antwerp (see page 207), and to this day they remain to adorn with their quaint old-time beauty the *Quai aux Herbes* on the right bank of the *Lys* in the centre of the town.

Flemish, the remaining two-fifths are Walloons. They are engaged in every variety of occupation. A very small section is occupied in forestry and in fishing. The villages on the coast have to-day far less importance as fishing villages than they have as flourishing seaside resorts. Those resorts, La Panne, Nieuport, Westende, Middelkerke, Blankenberghe and Knocke, extend east and west of Ostend almost without interruption from the Dutch to the French frontier.

Half of the people live by agriculture in such activities as wheat growing, dairy farming, cattle breeding and horticulture. The industrial production is equally intensive. Ghent, with its cotton and linen factories, is the centre of the textile industry; Verviers is the centre of the woollen industry; Charleroi, with the surrounding Borinage country, is the centre of coal-mining.

But far the most important industrial centre of Belgium is the Liège district, with its coal-mining, its engineering works, its gun factories, its glass factories, its motor and cycle works. The Cockerill engineering works at Seraing, founded in 1817 by an Englishman, are, on the Continent, second only to Krupp and to the Creusot.

Belgium is not only a country of peasants and artisans; it is also a country of bourgeois or burghers. It has no class of large landowners as in Great Britain. Five hundred acres of land in Belgium is considered an exceptionally big estate. But it has a large and flourishing middle class. The civil services and the railway services (which as is



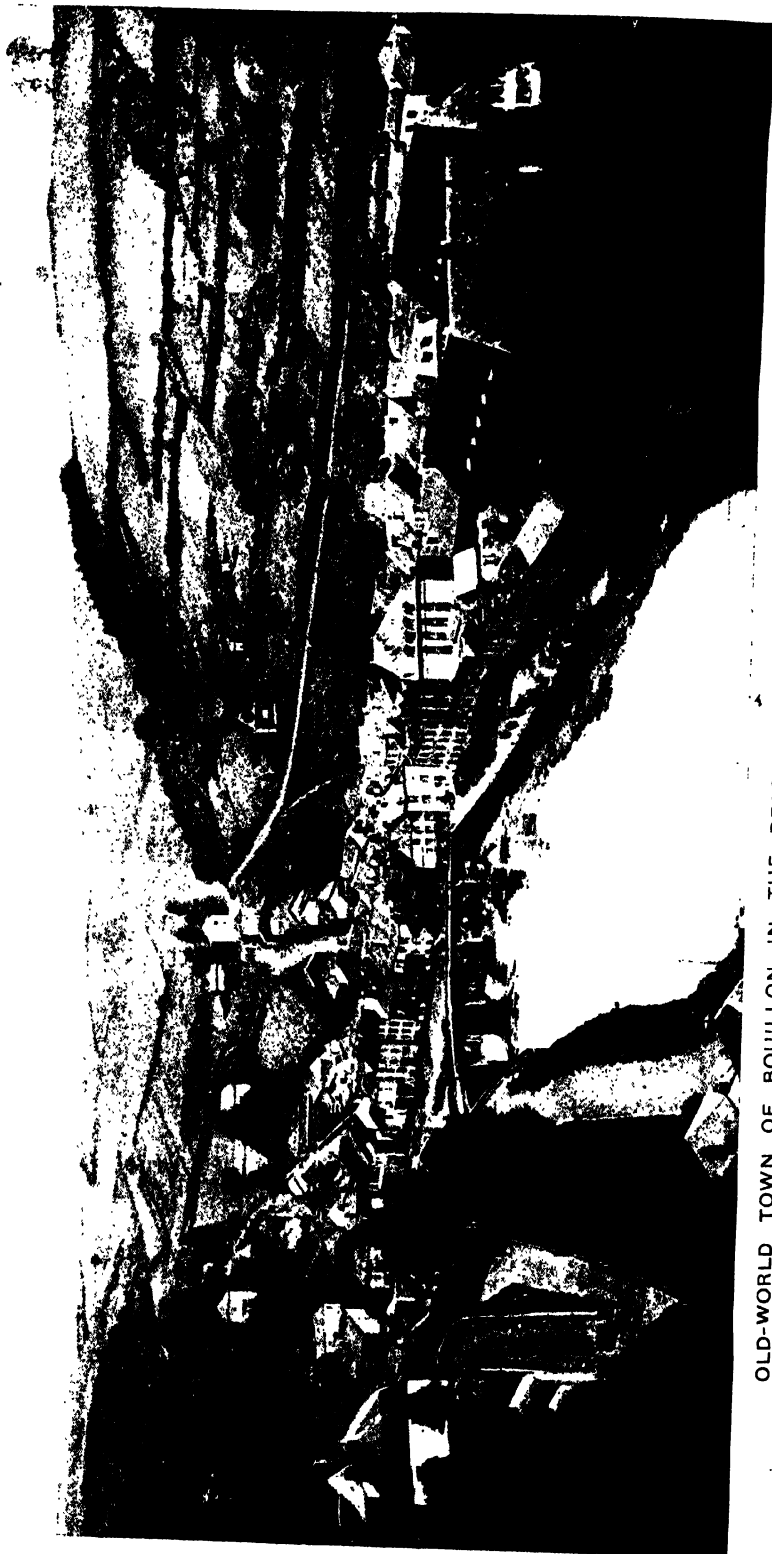
G. Uchter Kaoy

STORIED RELIC OF OLD GHENT

In the Place Ste. Pharaïlde, hard by the banks of the Lys, is seen the battlemented stronghold of the counts of Flanders traditionally founded in the ninth century. It was the ancient citadel of Count Philip of Alsace

often the case on the Continent are owned by the state occupy hundreds of thousands of employees. The highly-developed trades and industries occupy an army of commercial travellers, professional men and lawyers. The accumulated wealth of many generations has produced a large class of "rentiers" who are living independently on their small incomes. There is a numerous Catholic clergy with about 20,000 nuns living in convents. The hotel industry and the busy tourist traffic, the thousands of cafés, which have become a national institution, the outcome as well as the medium of a sociable and convivial temperament, also give employment to large numbers.

Owing to the density of the population and to the keen competition, Belgium is a very cheap country to live in. Both wages and salaries are much lower than



OLD-WORLD TOWN OF BOUILLON IN THE PEACEFUL SETTING OF AN ARDENNES LANDSCAPE

H. Fawcett

The quaint old town of Bouillon lies about the base of the Castle hill on both banks of the river Semois—one of the southern tributaries of the Meuse—which is spanned by a stone bridge. It is in the province of Luxembourg, nine miles north-east of Sedan, and is famous historically and as a favourite centre for excursions through the Semois valley and other well known regions in the lovely, undulating, well wooded country of the Ardennes. Formerly a duchy, Bouillon was taken by Louis XIV. in 1678, joined to the Netherlands in 1815 and passed to Belgium in 1837.



H. Fawcett

BEND OF THE SEMOIS, A TRIBUTARY OF THE MEUSE, AT BOUILLON

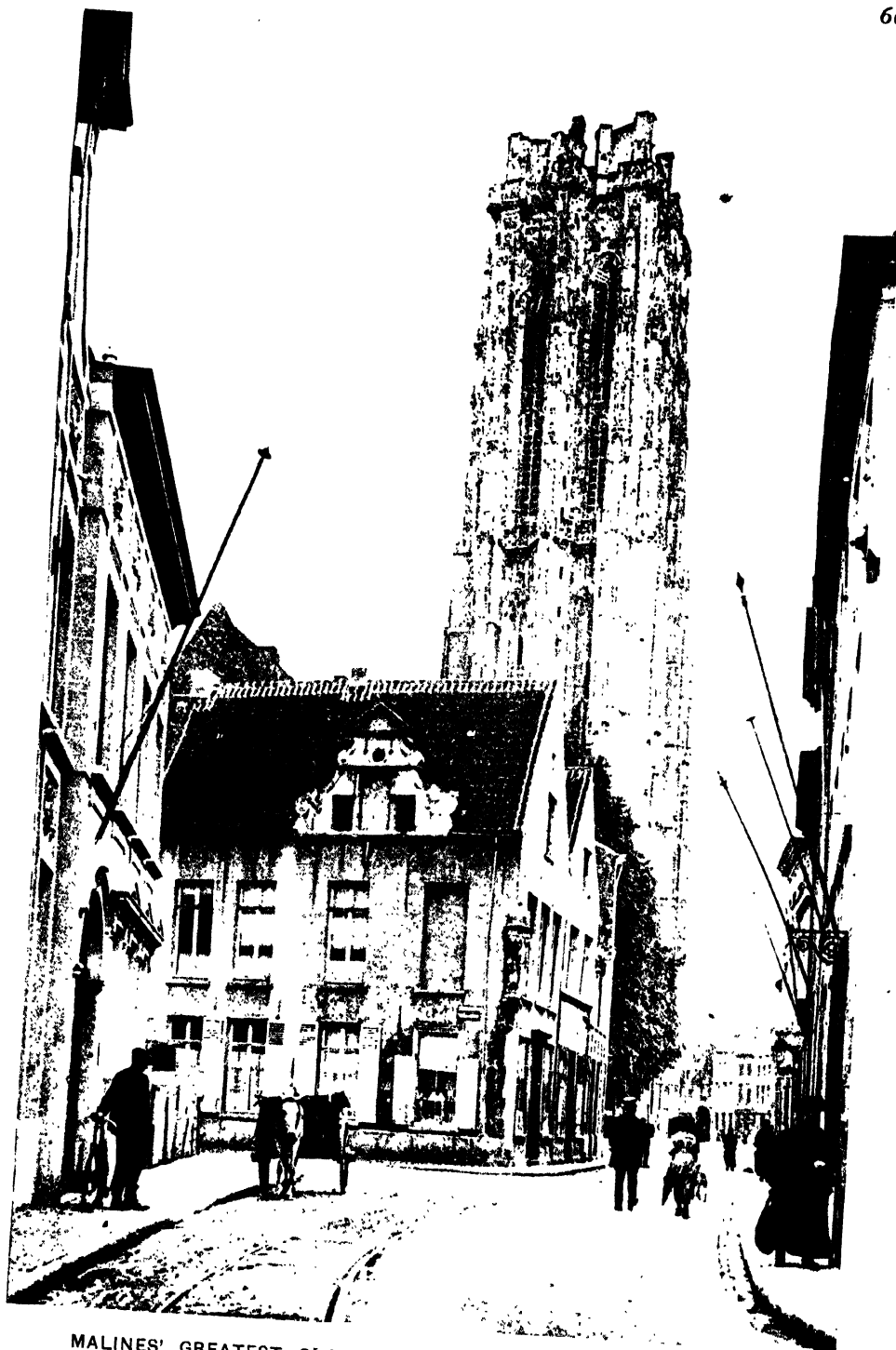
This beautiful view shows the fine position of the castle of Bouillon and the magnificent wooded heights—a feature of this part of Belgium. The citadel, a relic of antiquity still in a fair state of preservation, stands high on a rocky promontory below which the river flows almost in a circle; it is the original castle of Godfrey de Bouillon, the famous leader of the first Crusade.

in England. Even a judge of the Supreme Court will seldom receive more than £300 a year. But the low wages have a tendency to keep down the standard of living. In recent years, however, the standard has been raised by two powerful cooperative movements, one started by the Socialist party with its headquarters in Ghent and the other by the Christian Socialist party, mainly under the direction of the country priests.

Few countries possess greater facilities for the transport of both men and goods. Brussels is only half an hour's journey from Louvain and Malines; it is one hour from Antwerp and Ghent; less than two or three hours from Ostend and Liège; and it is less than five hours from Paris. There are excellent roads both for ordinary traffic and for motor traffic, some of them dating their origin as far back as Roman times. As the bicycle is universally used, especially by the peasant and the working man,

there are cycle tracks on every road. There is a close network of railways; the lines from Ostend to Liège and Cologne, from Brussels to Paris, and from Brussels to Rotterdam and Amsterdam are the most important of the international lines.

The light railways are a speciality of Belgium which deserves the careful attention of British social reformers. As Mr. Rowntree has pointed out in his excellent book on life and labour in Belgium, these railways play a considerable and a beneficent part in the distribution of population. They have helped to stop the rural exodus from the country into the big cities, and they enable the factory worker to continue to live in the villages. Recently a regular air service has been inaugurated plying daily between Brussels and Paris. Like Holland, Belgium has an important river and canal traffic. The barges relieve the congestion of the railways and are used mainly to carry cheap and



MALINES' GREATEST GLORY: THE CATHEDRAL OF S. ROMBOLD

Donald McLeish

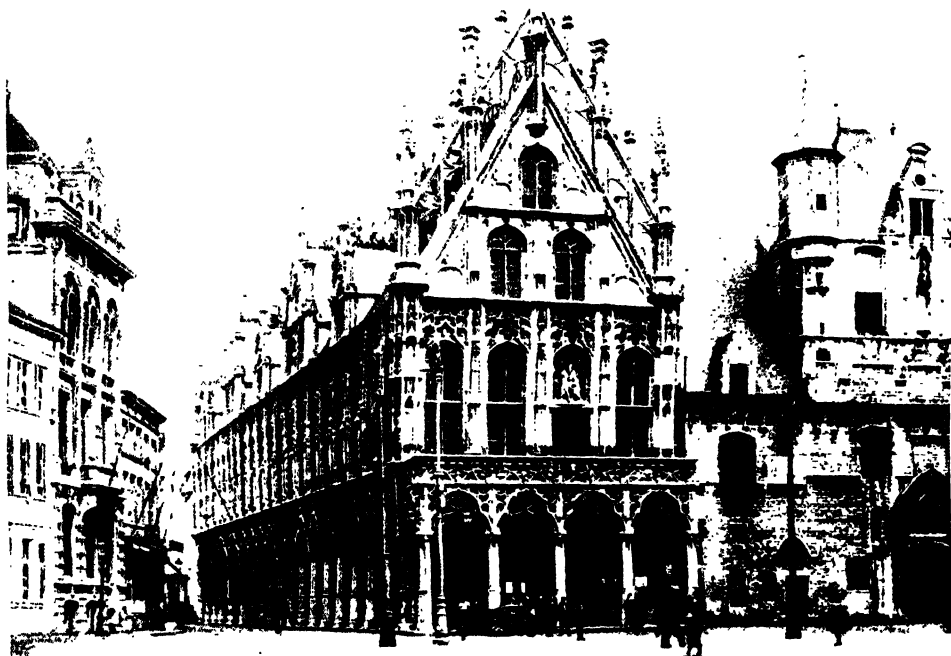
Ecclesiastically Malines is the capital of Belgium, and its great cathedral of S. Rombold may therefore be considered the religious centre of this populous little land. Its great spire, rising 324 feet over the roofs of the old houses of the Place S. Rombold was never completed, though the remodelling of the great building took place as long ago as the fifteenth century.

heavy goods. There are several regular steamship services between Belgium and Great Britain—the Antwerp-Harwich Line, the Dover-Ostend Line (owned by the Belgian State Railways), the Antwerp-Hull and the Antwerp-Leith Lines. There are also regular services from Antwerp to North and South America and to the Congo.

It is a remarkable fact that although Belgium has in proportion the largest international maritime trade of the world, yet the carrying trade is mostly done in foreign bottoms. Under the impulse of Leopold II. and King Albert

there have been repeated attempts to create a mercantile navy. The opportunity seemed to have come for building up such a navy after the conclusion of peace. In 1919 a powerful syndicate, "The Lloyd Royal Belge," bought up a large fleet of steamers, but catastrophic fluctuations in freights and prices consequent upon the general European unrest have dealt a severe blow to the nascent Belgian merchant navy and threaten the success of this Belgian enterprise.

The thriving agriculture and industry, the facility of communications and the



W. H. Smith, Brussels

GOTHIC CLOTH HALL THAT ADORNS THE GRAND' PLACE, MALINES

The peaceful Grand' Place of Malines presents a marked contrast to the busy workshops at the station, a focus of the main Belgian railways. Illustrated above is the famous Cloth Hall rebuilt in 1320. In the left, the Gothic portion is the post-office, and the older (right) portion houses the Musée Communal devoted mainly to civic antiquities; it contains a painting of the Crucifixion by Rubens



W. H. Smith, Brussels

SHARP PINNACLE OF THE ROCHE A BAYARD

On the right bank of the Meuse about a mile above Dinant is the Roche à Bayard: this legendary horse of the sons of Aymon is fabled to have left its footmarks here in springing across the river to escape the pursuit of Charlemagne

privileged geographical situation of the country at the cross-roads of European intercourse all combine to make Belgium a great commercial country, and to make Antwerp one of the great ports of the world. The prosperity of the home trade may be observed by the tourist on any market day in any big village or small town of Flanders or Brabant.

The Belgian village market is among the picturesque survivals of the Middle Ages and presents one of the most interesting aspects of Belgian life. National and international fairs, which are annual occurrences, are another proof of the activity in internal and external commerce.

The international trade per head of population is bigger than that of any continental country; France, Great

Britain, Germany and Holland are all important customers. Before the Great War Germany took the lead. But it has to be noted that the international trade of Belgium is largely a transit trade, and as Germany with Central Europe constitutes commercially the hinterland of Belgium, the profits of this transit trade before the Great War did not go to the Belgian but to the German middleman. The trade of Antwerp was largely concentrated in the hands of German firms. Recently there has been an attempt to develop trade with France and Great Britain. Mutual ignorance of the language, differences of weights and measures and currencies are, however, proving serious obstacles.

Trade with the Congo, Belgium's great African colony which it owes to the foresight and statesmanship of Leopold II.,

has developed more slowly than was anticipated. The hopes of King Leopold and King Albert have so far not been realized. From such an over-populated country one might have expected a constant stream of emigration, but such has not been the case. The deficient emigration, which is due to the sedentary habits of the people, as well as to the climatic conditions of the Congo, is the main cause of the slow progress of the magnificent African colony. The vast concessions of Lord Leverhulme's companies represent more than one-half of the exports of the Belgian Congo.

The distribution of the population as between town and country is more evenly balanced in Belgium than in England. Belgium is preeminently a country of cities (Antwerp, Liège and



Donald McLeish

BELGIUM. Seen here between the little Cloth Hall and the superb Hôtel de Ville, the ancient Gothic Belfry is one of the glories of Ghent



MORSE W. KIRKHOFF

BELGIUM. Notable even among the many charming spots in Bruges is the Quai du Rosaire. Framed in quaint buildings it stands at the corner of the Rue aux Laines, close to the Grand' Place with its ancient Belfry.

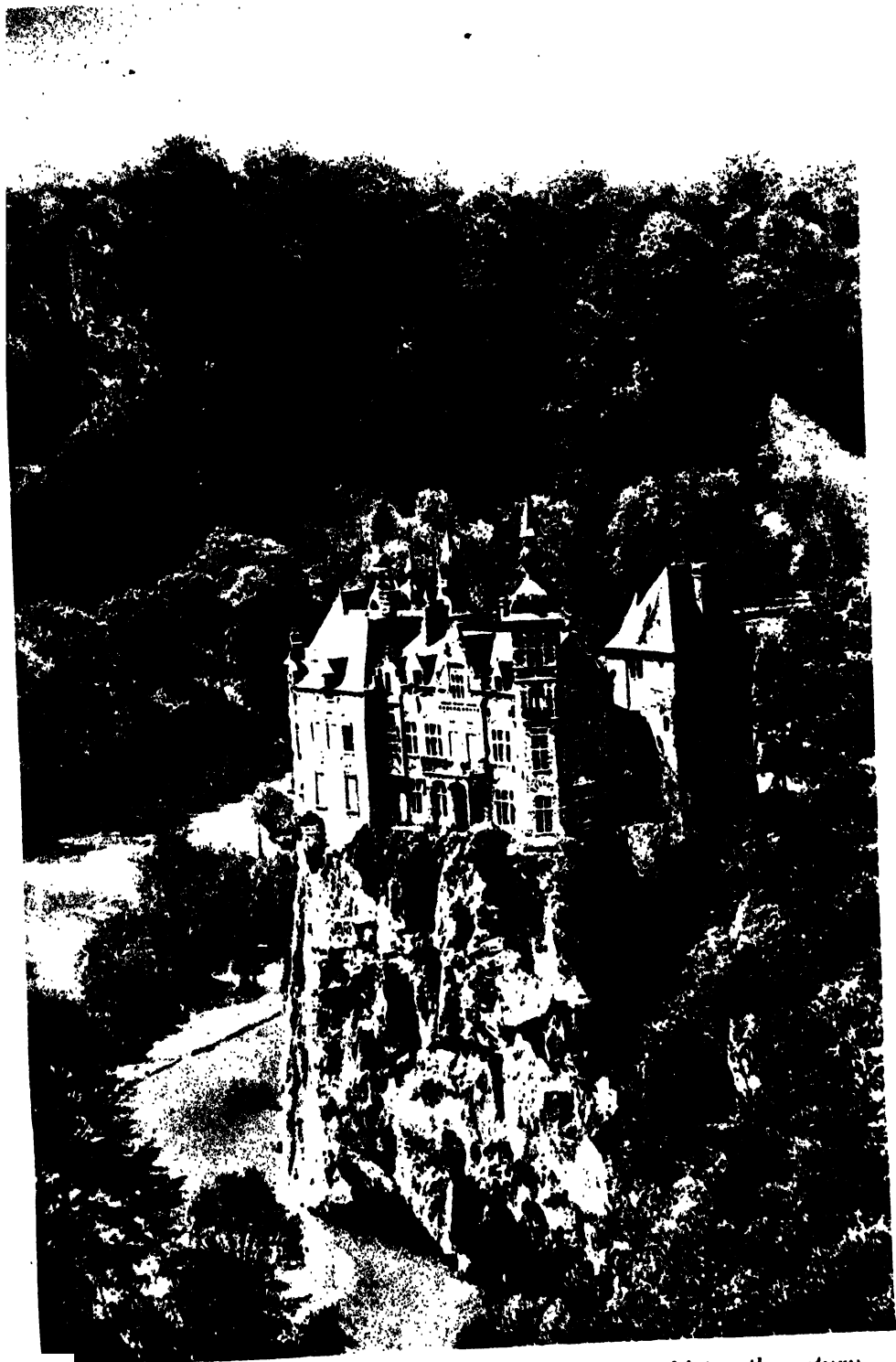


Horace W. Nicholls

BELGIUM. Thousands of tons of merchandise are conveyed over the waterways of Belgium. Canal life is arduous here, for the bargemen often employ their whole family as the draught power for their heavy craft



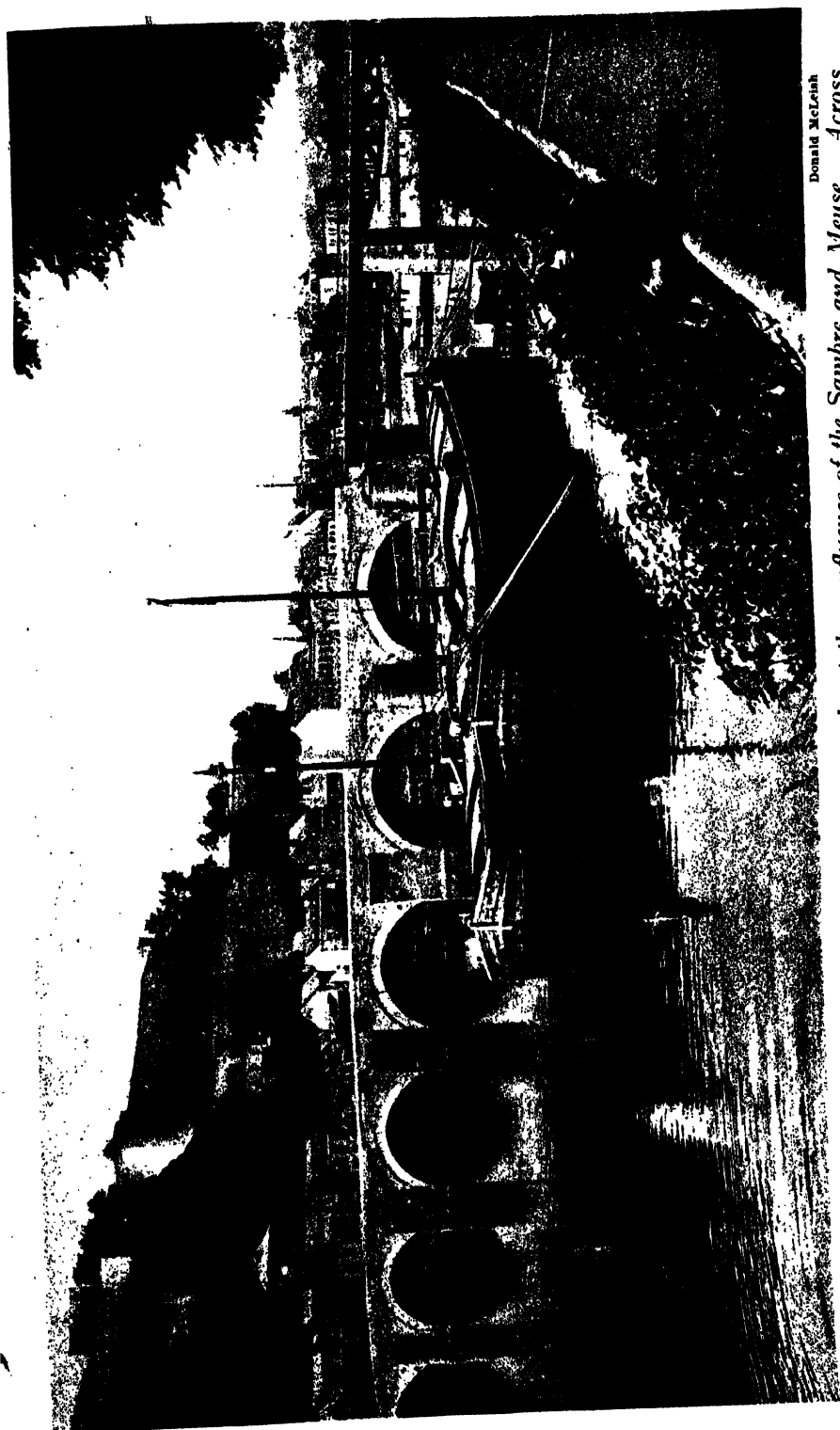
BELGIUM. *From the Rue Hors-Château this steep flight of 385 steps, the Montagne de Bueren, leads up to the Citadel of Liège*



BELGIUM. In the wooded valley of the Lesse the thirteenth-century castle of Walzin is the artistic gem of the pretty village of Anseremme



BELGIUM. Near the farm of La Haie Sainte, a vital point in the Battle of Waterloo, the Mound of the Belgian Lion commemorates the victory of the Allies. Captured French guns supplied the metal for the lion



Donald McLeish

BELGIUM. Fortified since Roman times, Namur stands at the confluence of the Sambre and Meuse. Across the latter a nine-arch bridge, broken in 1914 to delay the German invasion, leads to the suburb of Jambes



W. H. Smith, Bru

Few places in Europe have seen the coming and going of so many armies as the Grand' Place of Mons, the capital of Hainault



W. H. Smith, Brussels

BELGIUM. A very haven of peace is this old Bèguinage in Courtrai, where good women devote their lives to religion and charitable work

Ghent); Brussels alone with its suburbs absorbs nearly one-seventh of the total population. This concentration of the urban population, especially in the Flemish plains, is the main feature of Belgian demography. The sanitary conditions are good. The State and the Church have both made great efforts in improving the hygienic standard; the new villages round Winterslag in the coal-fields of Limburg, the most wonderful model villages of Europe, testify

always provide profitable employment, and the lace industry is a parasitic industry. The wages of the lace workers have to be eked out by charity.

The two races which for fifteen hundred years have occupied Belgium have retained almost the same linguistic boundaries, which run in an almost straight line from Bailleul in France to Maastricht in Holland, passing to the south of Brussels. And the two races hitherto have always lived in



W. H. Smith, Brussels

BELFRY IN THE SPACIOUS MARKET PLACE OF OLD COURTRAI

Courtrai, or in its Flemish form Kortryk, is an ancient town on the Lys that still flourishes, unlike many contemporaries, with unabated prosperity. This good fortune she owes to her linen and lace-making industries—see the illustration in page 691. The scene above shows the Grand' Place with the fourteenth century Belfry in the centre and the tower of S. Martin's Church on the left

to the great progress which has been made in recent years.

As we have already pointed out, there has been a considerable rise in the average wages of both the factory worker and the farm labourer, and it is worthy of note that the progress has been obtained not by strikes or direct action, but by cooperation and peaceful combinations. A great deal of progress, however, remains to be accomplished, for there are still many undesirable slums in the great cities. It is a curious anomaly that the worst sweated industry is the lace industry of Malines and Bruges. Luxury does not

harmony; divisions and differences in Belgium have not been between race and race, but between town and town. The cleavage between Fleming and Walloon is of quite recent date and is largely a legacy of the Great War and the result of German propaganda. To-day the battle of languages, which has culminated in the demand for a Flemish university in Ghent, is the most burning question in the country. But for the unifying and moderating influence of the monarchy and the political sense of the Belgian people there might have been serious danger of political separation. The Fleming belongs to the blond



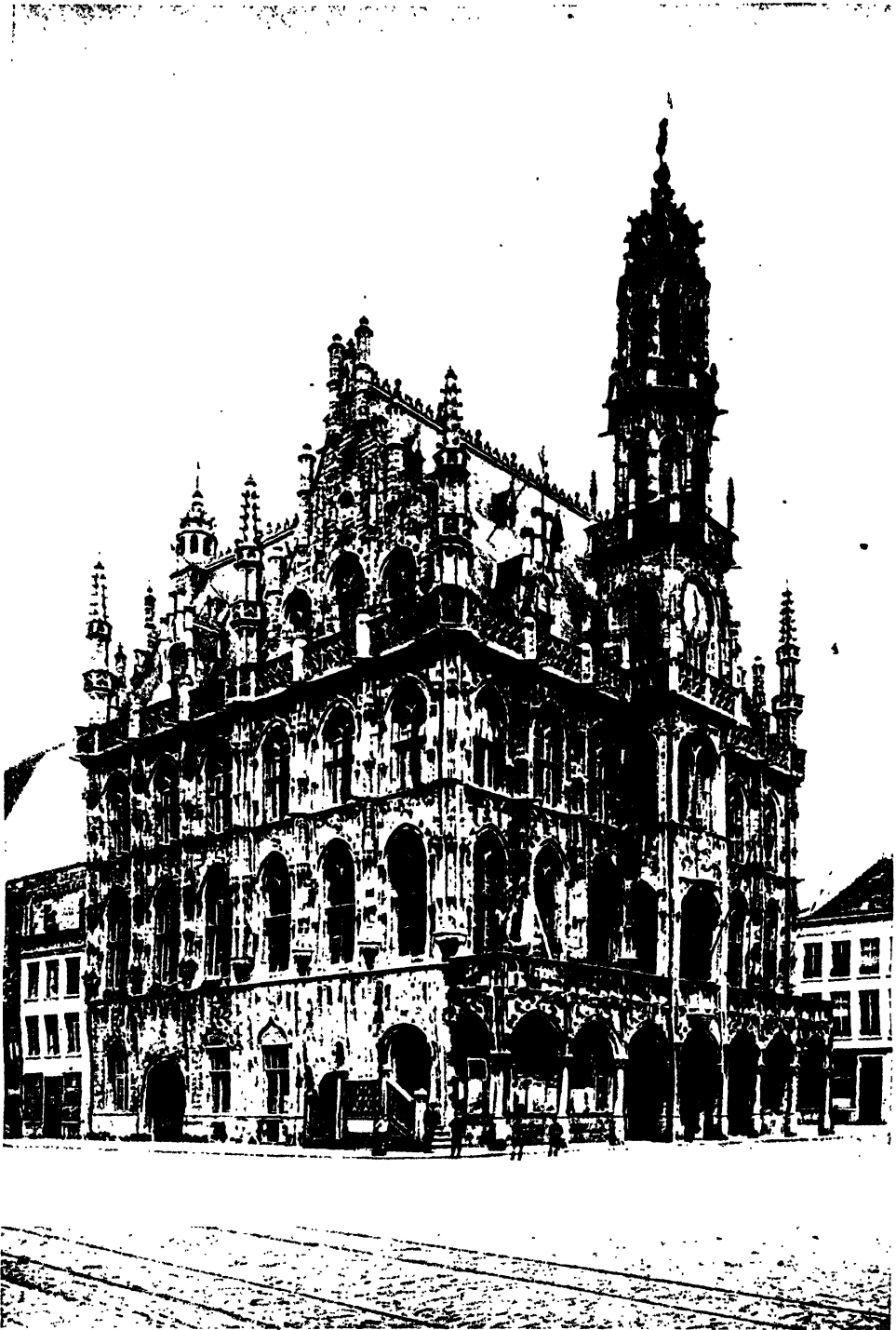
DINANT BY THE MEUSE, A BEAUTY SPOT IN THE HEART OF THE ARDENNES COUNTRY W. H. Smith, Brussels

Beautifully situated among trees on sloping ground that falls gently from bare limestone cliffs to the right bank of the Meuse, Dinant has on many occasions been the object of military operations, and an examination of the photograph will show some of the devastation of the Great War. The chief interest of the town centres in the church of Notre Dame which is out of sight here to the left, but appears in the photograph in page 651. It is a fine piece of architecture which also suffered from bombardment, its spire and its famous twin towers having been partially demolished by shell-fire.



PANORAMA OF THE WINDING RIVER MEUSE FROM ABOVE THE TOWN OF DINANT
 The Ardennes hills have always been very popular as a holiday resort; they are thickly clothed in trees that are the remains of a great forest, mentioned by Julius Caesar, which at one time extended to the Rhine but is now confined to the Meuse banks. The woods are rich in game and wild animals, and among these is the wild boar, formerly very common. Coal, iron, lead and slate are worked in the district surrounding Dinant which is here seen with its suburb St. Medard on the left bank; the ground is fertile and agriculture is the chief occupation of the region

H. Fawcett



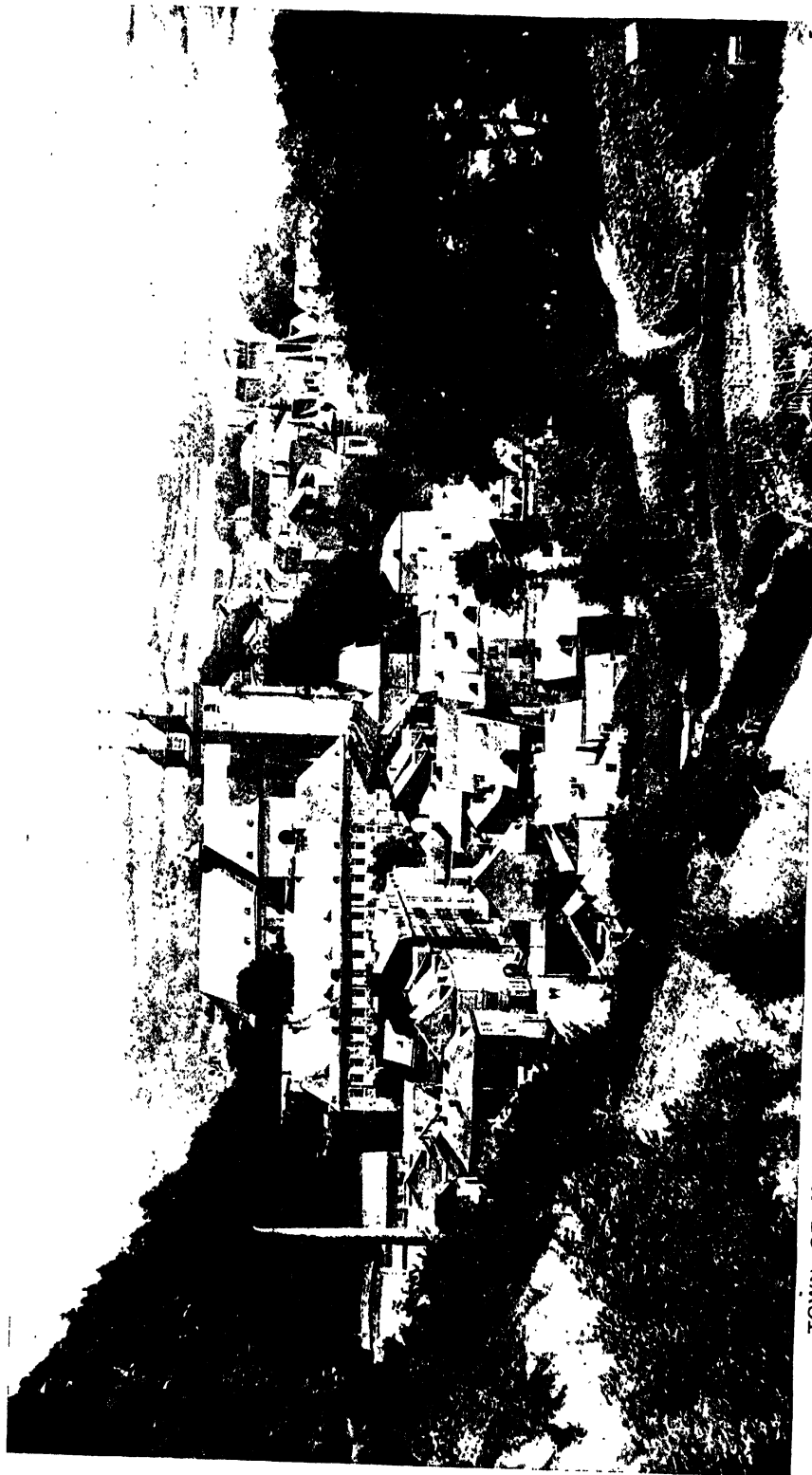
W. H. Smith, Brussels

SIXTEENTH CENTURY HOTEL DE VILLE AT OUDENARDE

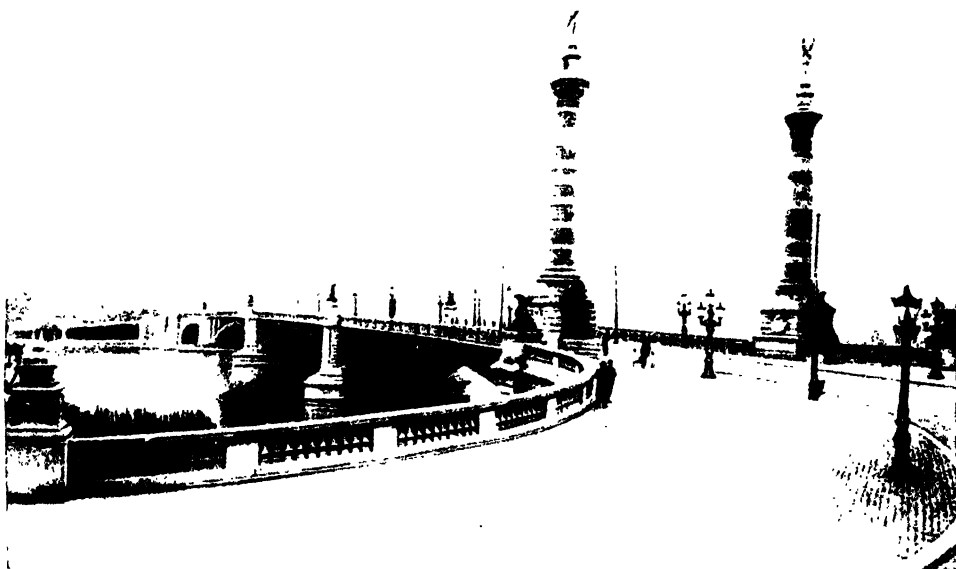
After a journey of 38 miles through Brabant and East Flanders along the line from Brussels to Courtrai the traveller reaches the little and very old town of Oudenarde. Its chief building is this town-hall, which is reputed to be second only to that of Brussels. On the ground floor is a fine hall with rows of columns and the five-storeyed tower is rich in decorations. Oudenarde was once famous for its tapestry



GLIMPSE OF ANSEREMME IN THE BEAUTEOUS VALLEY OF THE MEUSE
The country of the Ardennes is remarkable for its picturesque scenery, full of rare and distinctive charm, and the valley of the Meuse between Namur and the French frontier is one of its most attractive regions. Among the chief towns up the river Anseremme ranks as one of the loveliest; it lies at the junction of the Lesse with the Meuse and is a favourite resort of the artist and nature lover



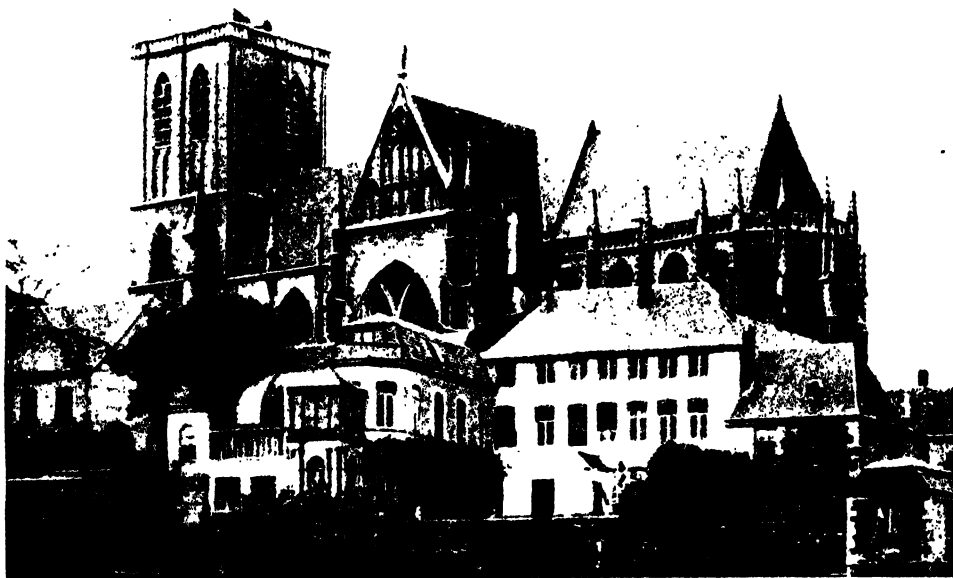
TOWN OF MALMEDY LYING IN ITS COMPACT SYLVAN SETTING IN THE BASIN OF THE WARCHÉ
 Amid steep wooded slopes and verdant fields watered by the river Warché, in about as lovely a natural setting as the mind can conceive, lies Malmédyl, chief town of the district of the same name, formerly in Rhemish Prussia and since the Great War part of Belgian territory. The town is 25 miles south of Aix-la-Chapelle, and its population of some 5,000 persons is composed mainly of Wallons. The staple industry of the district, which covers an area of 318 square miles, is dairy farming, but the townsmen, intent on industrial development, are chiefly engaged in tanneries and paper mills.



PONT DE FRAGNEE SPANNING THE MEUSE AT LIEGE

The city of Liège, occupying a magnificent position on both banks of the river Meuse at the influx of the Ourthe, has considerable commercial importance and has been described as the Belgian Birmingham and Sheffield combined. Extensive quays have been added in comparatively recent times.

The handsome Pont de Fragnée spans the Meuse between the Ourthe and the Ourthe Canal.



LIEGE: SEVERE BUT IMPOSING PROPORTIONS OF AN OLD CHURCH

Though the present edifice was built in 1542 and subsequently restored, the Church of S. Martin in the Rue Mont S. Martin can claim its share in the glamour of a more remote antiquity; for it is the lineal descendant of the Basilica founded there by Bishop Heraclius in 962 and burnt down in 1312. It was in this early building that the festival of Corpus Christi was first held.

Germanic type. He is steady, industrious, prolific, sensuous, musical and artistic. He has more temperament and more originality than the Walloon, although, curiously enough, he is less long-lived. He is also politically more important. The Walloon belongs to the brown Gallic type and his temperament and his character are very like those of the French people. The French influence is dominant and

There are four universities, in Liège, Ghent, Brussels (Liberal) and Louvain (Catholic), in addition to a Faculty of Commerce at Mons and a Colonial Institute at Antwerp. All the higher institutions of learning in Belgium are as much cosmopolitan as Belgian. One-third of the students of Liège are foreigners drawn from all parts of the world. Artistic education is highly developed. The Belgians are, however,



WHERE WELLINGTON AND BLUECHER MET AFTER WATERLOO

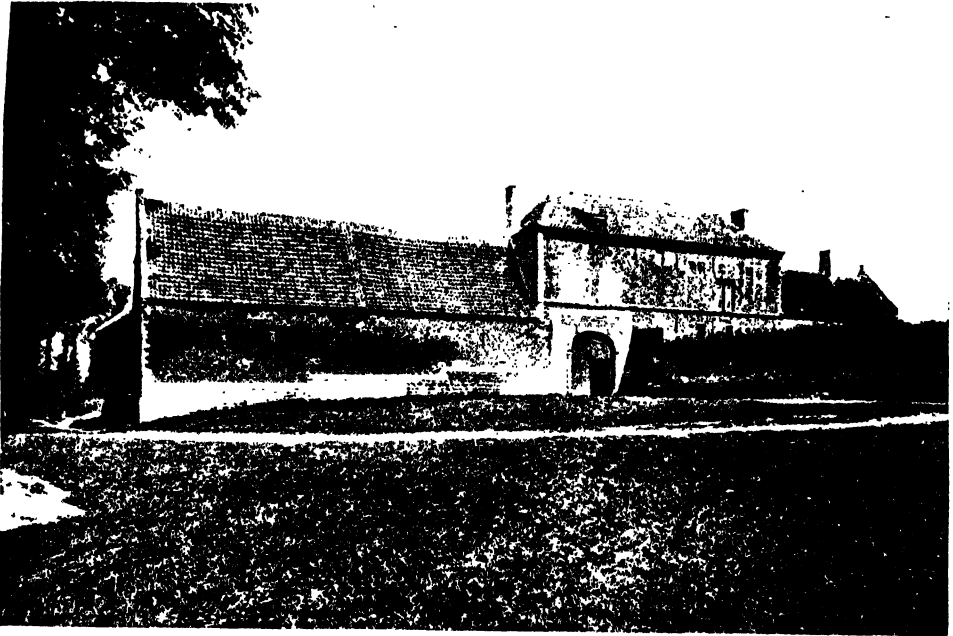
For decades the farm of La Belle Alliance has stood peacefully enough beside the long, poplar-lined "pavé." But one Sunday morning, on June 18, 1815, it found itself in the centre of the French lines, and when evening brought defeat and victory it was near this spot that the two generals whose cooperation had been the keystone of their success met at last

even Brussels, which contains a large Flemish element, has been called a "little Paris." Liège is almost more French than Lyons. Yet although the two races are very different, the solidarity of political life has produced a common type equally characterised by tenacity of purpose and enterprise, and by a wonderful vitality and an astonishing recuperative quality.

Educational progress in Belgium has been slower than might be desired, largely because education has been made a political and a religious question, and illiteracy is still very prevalent.

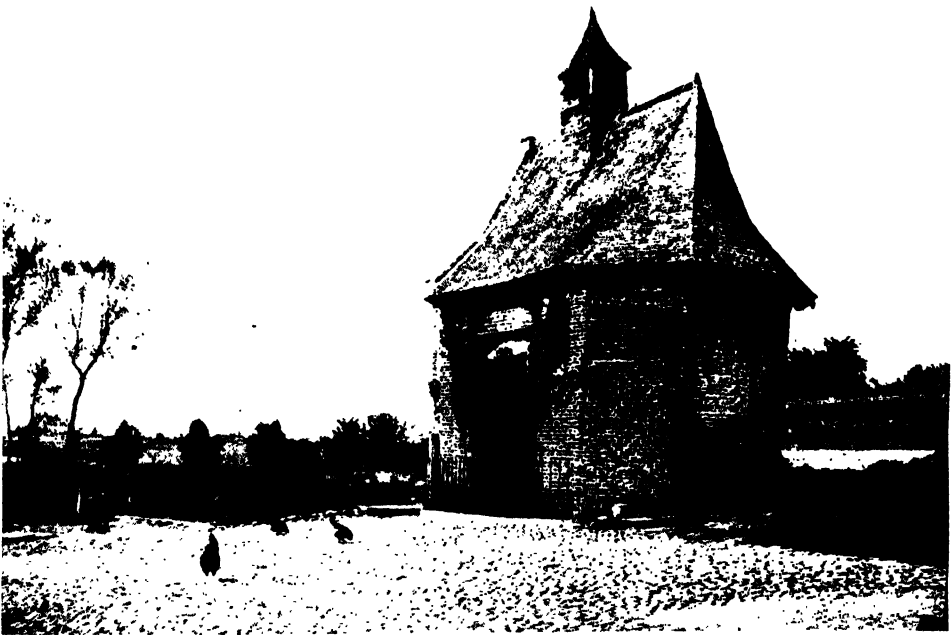
more gifted in music, painting and sculpture than they have proved themselves in the arts of pure literature.

The Great War shook Belgium to its very foundations. Five years of German occupation, the emigration of hundreds of thousands of refugees, the destruction of mines and factories dealt a terrible blow to the former prosperity of the nation. But the country's recovery was astonishingly rapid. Here indeed history has been shown to repeat itself. Belgium has always been the battlefield of Europe and has frequently been ruined. But



HOUGOUMONT FARM THAT IN A DAY BECAME IMMORTAL

Napoleon opened his attack at Waterloo by a feint at this building on which rested the Allied right. It was garrisoned by Belgian units and detachments of the Coldstream Guards, who made good their defence all day, though towards evening the place was a charnel house. The loopholes that once spat flame from the Allied musketry may still be descried among the bricks



Uchter Knox

CHAPEL AT HOUGOUMONT WITH ITS MEMORIAL OF THE DEFENCE

During the many magnificent attacks that the French delivered on Hougomont they several times succeeded in setting fire to some of the outbuildings. These conflagrations were always smothered, but in one of them the flames burnt about a foot of this chapel before being extinguished. Eight hundred corpses were burnt outside the door after the battle and 300 British are buried near by



RUINED TOWER OF THE THIRTEENTH CENTURY CLOTH HALL OF YPRES
As it stood before the Great War in the Grand' Place at Ypres the Cloth Hall was one of the largest and finest Gothic buildings of its kind in Belgium. It was built mainly between 1200 and 1314, and the tower, which served the town as a belfry, was one of the first portions to be erected. The ruins are preserved as a memorial of the Great War

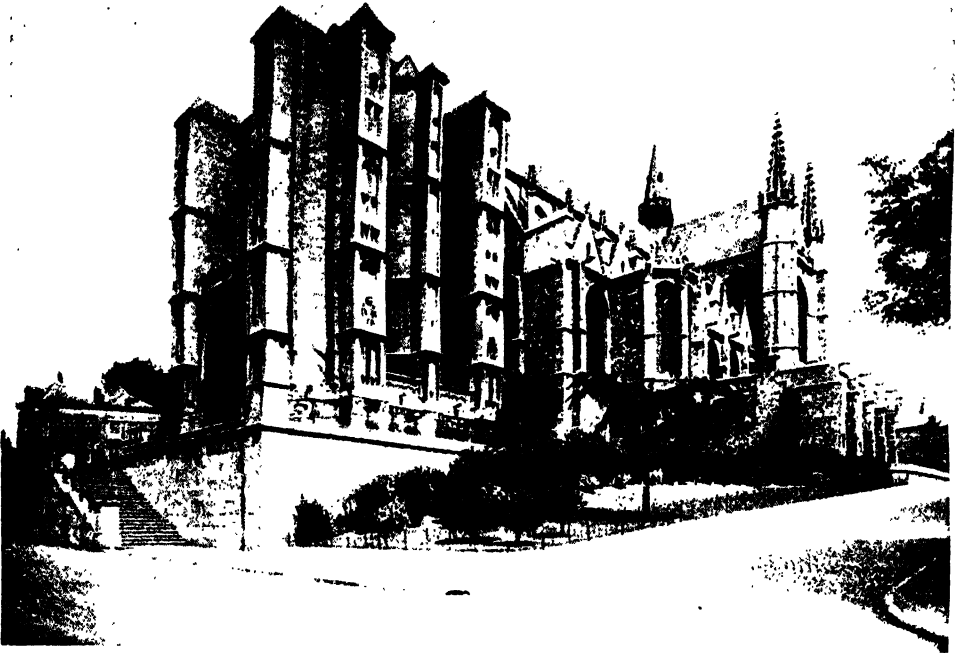
Donald McLeish



W. H. Smith, Brussels

GREAT BELL TOWER OF MONS ON A HILL ABOVE THE TOWN

Opposite the cathedral is the Place S. Germain whence a short ascent leads to the summit of a hill, once the site of some supposedly Roman fortifications. This is now occupied by a pleasant garden amongst whose trees rises the great Belfry with its fine carillon. The tower is 275 feet high and was set up in 1662. But Mons is remembered less for any building than for the Retreat of 1914



LATE-GOTHIC CATHEDRAL OF S. WALTRUDIS AT MONS

W. H. Smith, Brussels

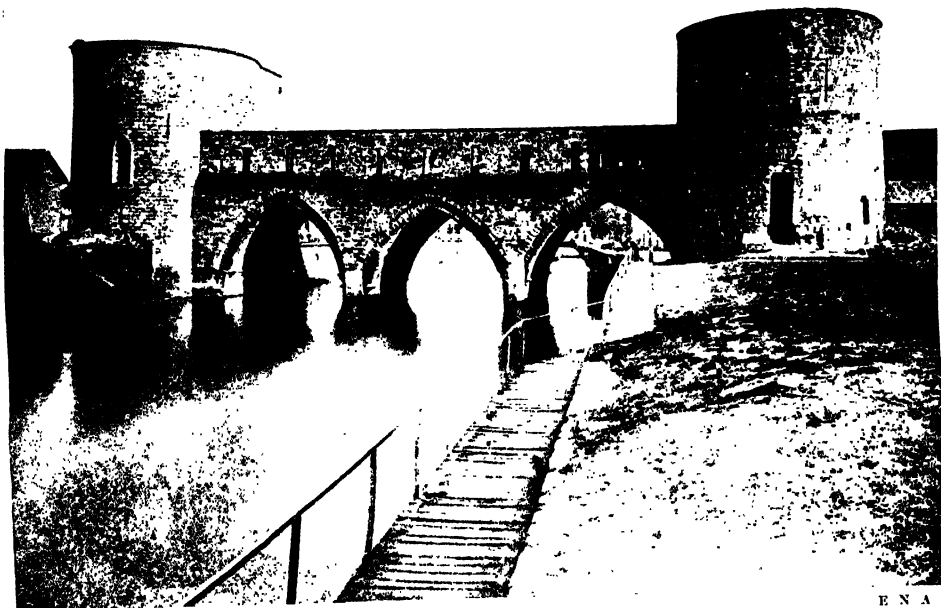
It took nearly 200 years to construct this building whose first stone was laid about 1450 and whose nave was not finally completed till 1621. The dedication is to the first countess of Hainault, of which province Mons was the capital from the eighth century. A later countess married Edward III. of England. The cathedral has ninety windows, of which many contain rare stained glass.



IN THE HEART OF THE CITY OF TOURNAI: THE GRAND' PLACE

W. H. Smith, Brussels

In the centre of Tournai is found the Grand' Place, triangular in shape and adorned with a bronze statue of the Princess of Epinoy, the heroic woman who defended the town against the forces of Alexander, Duke of Parma, in 1581. The towers of the cathedral are seen above the houses on the left, while at the far end of the Place rises the isolated Belfry, partly dating from the twelfth century.



PICTURESQUE PONT DES TROUS, REMNANT OF THE MIDDLE AGES

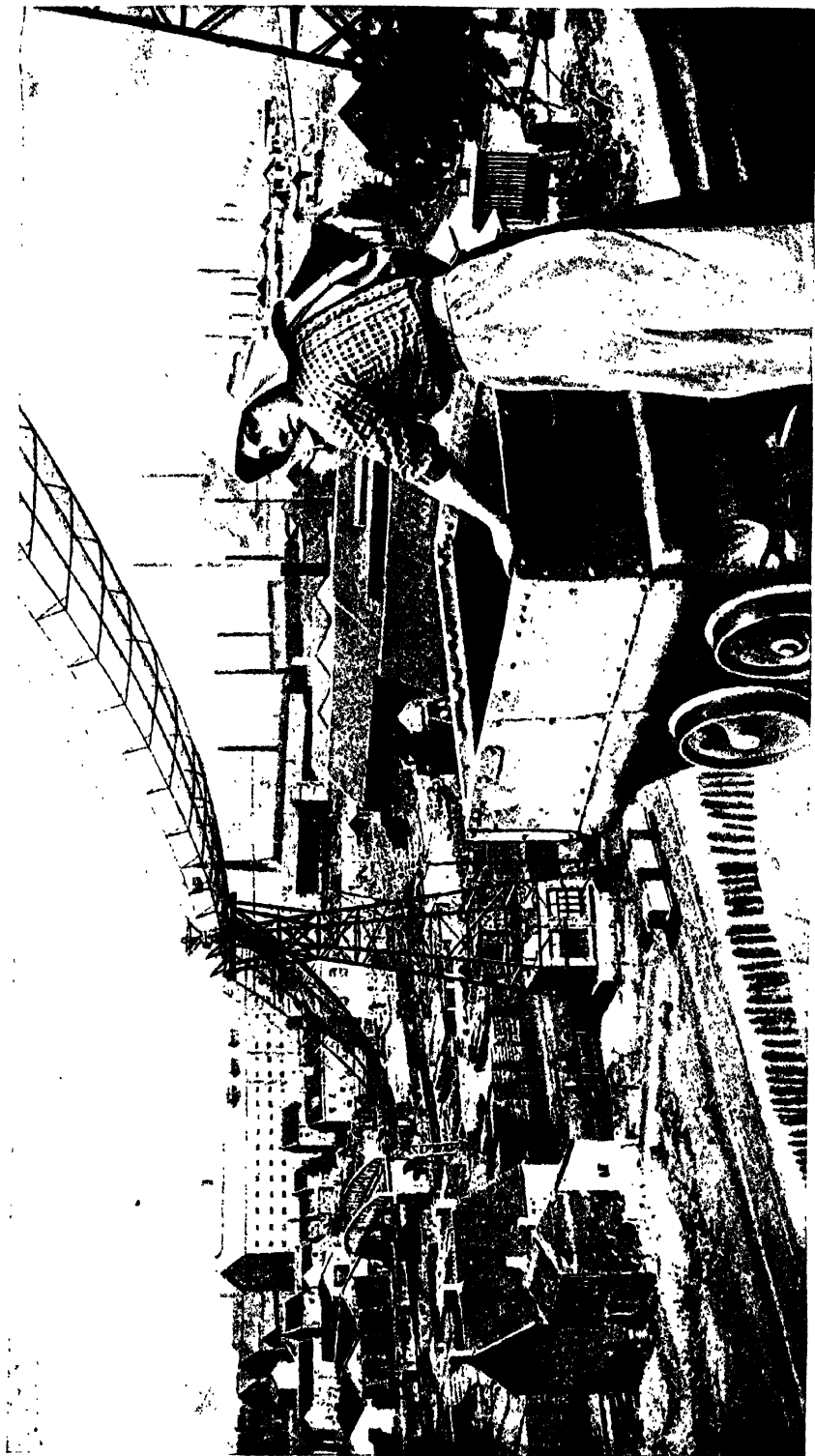
Tournai still contains some fine examples of medieval architecture, not the least interesting of which is the massive old Pont des Trous which spans the Schelde in three pointed arches at the lower end of the town. Built during the thirteenth century this ponderous structure, guarded by two strong towers, is full of historic interest and valuable as a relic of the ancient fortifications of the city.



W. H. Smith, Brussels

STATELY MINSTER OF TOURNAI, ONE OF BELGIUM'S ANCIENT CITIES

The cathedral of Notre Dame is the dominating feature of Tournai, a city standing on both banks of the Schelde nearly 100 feet above sea-level. The central tower is surrounded by four lateral steeples of very graceful proportions; the nave and apsidal transepts are Romanesque of the eleventh-twelfth centuries, and the whole structure is one of the noblest achievements of medieval Belgium.



AMID THE FACTORIES OF BELGIUM'S "BLACK COUNTRY": GIRL WORKER IN THE CHARLEROI COAL-MINES
 A town of some 30,000 inhabitants, Charleroi is situated in one of the most densely populated areas in Belgium. It lies on an important coal-field with an immense output, is the centre of the iron industry, and has chemical, glass and pottery works. The town occupies the site of the former village of Charnoy, renamed Charleroi in 1666 in honour of Charles II. of Spain. It is in the province of Hainaut and stands on the river Sambre, 22 miles by railway east of Mons, and is connected by waterways with the great system of canals of north-east France and Belgium.



RIVER SCENE SUCH AS FLEMISH MASTERS LOVED TO PAINT

Along its placid course to the Schelde the Lys provides many a charming scene of its lustrous bedded to calm and settled beauty. This photograph was taken on the outskirts of Courtrai (see page 677) and shows on the right one of the poplar-fringed towing path characteristic of the Belgian country; side, while on the left may be had a glimpse of tacked flax ready for "retting" - rotting



SOAKING FLAX IN THE WATERS OF THE "GOLDEN RIVER"

The wealth of Courtrai and the surrounding district depends on linen in all stages of manufacture from flax to lace; and the reason for this preeminence rests with the river Lys. Owing to some quality of its water it is excellent above other rivers for rotting the flax, so much so that Irish flax is sent all the way there and back for this purpose alone; hence its name of the "Golden River"

it has always and very speedily been restored to prosperity. It cannot be said that Belgium gained any political advantage from the Peace Treaty. The 350 square miles of the Eupen and Malmédy annexed territories may prove to be a doubtful acquisition. Since 1918 there have been severe economic crises and labour troubles. The depreciation of the franc presented a

formidable economic problem, and the loss of the Russian and German markets was not replaced by the gain of any other markets. To judge by the experiences of the past, however, there can be little doubt that the Belgian people with their indomitable spirit will weather the storms and maintain their place in the front rank of the progressive nations of Europe.

BELGIUM: GEOGRAPHICAL SUMMARY

Natural Divisions. Coast—part of the 1,000 mile belt of sand dunes that fringes the North Sea. North—behind the dunes, western section of the Great European Plain. South—the Ardennes—one of the relics of the oldest mountain formation of middle Europe.

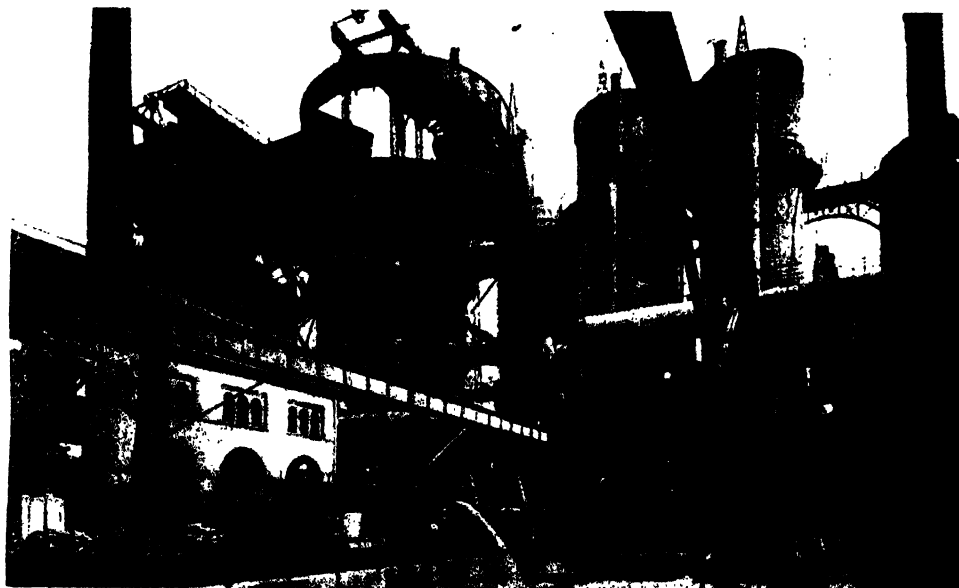
Climate and Vegetation. West European type, similar to, yet slightly more extreme than, that of the British Isles. The westerlies from the Atlantic Ocean bring frequent cloud with rain at intervals. Naturally a forest region.

Products. In agriculture, mining and population, probably, for its size, the most remarkable country in the world. Spade tillage produces wheat, potatoes, etc.; intensive cattle rearing provides dairy products. Coal, iron ore and zinc are the chief minerals, and on them is based a great engineering and metal-

lurgical industry, as well as important textile production in linen, cotton and wool.

Communications. The Schelde and Meuse, with their tributaries, are connected with the waterways of France, Holland and Germany; the main railway lines, fed by a remarkable development of light railways, are international in scope. Antwerp is one of the greatest seaports in the world.

Outlook. Ringed with a closed fence, Belgium would have sufficient natural resources to be almost self contained, yet her position as a transporting depot has taken her far beyond mere self-sufficiency. Trade and production for sale are the mainstay of the people, whose future progress lies almost solely in the development of the world's trade. Belgium is the antithesis of Armenia.



MOLTEN SLAG IN A METALLURGICAL FACTORY OF COUILLET

Hainault, one of the nine provinces of Belgium, contains some of the principal industrial centres in the country; the rich coal and steel districts centring on Mons and Charleroi, whose coal-fields and industries are closely connected with those of north-east France. Couillet is likewise a commune of iron workers, and the monotonous whir of machinery is heard throughout the day and night

BELGRADE

Progressive Capital of the New Serbia

by Sir Percival Phillips

Journalist, Author and War Correspondent

BELGRADE is a pleasant little city, chiefly remarkable for the astonishing energy it has shown in throwing off the old-fashioned garb of a Balkan town and living up to its new dignity as the capital of the Kingdom of Serbs, Croats and Slovenes, more familiarly known as Yugo-Slavia.

Although it possesses a population of less than 150,000, no community which suffered from the disintegrating effects of the Great War has undergone a more sweeping transformation since the armistice. An almost aggressive air of modernity stamps Belgrade as a pioneer in the intensive development of the Balkan States. It is all the more remarkable when one remembers that there are residents still living who knew the city merely as a dingy Turkish garrison town, possessing only the most primitive comforts. To-day the historic name "Beograd" (White City), which has clung to it through centuries of misfortune and misrule, is again realized in the post-War capital with its clean and cheerful streets and new stone and stucco-fronted buildings.

A Long-Contested Stronghold

Few capitals enjoy such a dominant site. It stands upon a narrow ridge which juts out boldly at the confluence of the Danube and the river Save and commands the wide plain on either side. Until long-range artillery revolutionised the science of war, this high shoulder of ground was a natural stronghold, the ownership of which was bitterly contested throughout the ages. Wandering tribes realized its security as early as the fourth century; the Romans built a fort on the summit and under Justinian, the Byzantine emperor, it

became an important walled military depot. Attila and his Huns, the Samaratic tribes and the Ostrogoths held the hill in turn. Crusaders camped there on their way to the Holy Land. Then the Turk took the fort in 1521, and for more than 400 years save for intervals remained lord of the Danube.

Liberation from the Turkish Yoke

During this long period there were repeated struggles which gave the Serbs, Austrians and Hungarians brief tenure in turn, but it was not until 1866 that the Turkish garrison was finally dislodged from the citadel on the brow of the hill and Belgrade became wholly the property of the Serbs. Peace prevailed until 1914 when the first shells of the Great War were fired into the defenceless city. For three years the Germans and Austrians were masters of the ridge. With the armistice came the birth of a new and greater Slav kingdom, and now there remains only the battered brick shell of the old fort as a relic of the passing of the Turk.

Viewed from the train which approaches deviously across the Hungarian plain past Zemun, the pre-War frontier station, the distant view of Belgrade is very imposing. The ridge is so narrow that the city appears to be struggling for a foothold upon the steep slope; rooftops rise in crowded terraces from the riverside quays, and at the tip of the promontory the shattered bulk of the citadel looms large over the meeting-place of the rivers. The traveller realizes how the ridge could be held when war was waged with primitive weapons, and how defenceless it was when Austrian monitors on the Danube and howitzers hidden in the



SERBIA'S CAPITAL ON A RIDGE 'TWTXT SAVE AND DANUBE

plain were able to fire almost point-blank at such a tempting target set large against the sky.

Victory erased the old frontier bounded by the Save, and to-day the plain with Zemun and all the towns for many miles beyond it which were part of the old Austro-Hungarian empire are within the confines of South Slavia.

In Turkish times the ridge was covered by a straggling, overgrown village intersected in a haphazard way by narrow, filthy streets. From the fort at the tip a road followed the crest and the more important buildings, mostly of the usual makeshift Turkish type, were clustered around it. The hilltop road is now the principal

thoroughfare of the capital, and so complete has been the destruction of the old Turkish town that only a few tumble-down buildings survive on the Danube fringe; these are wholly overshadowed by the masses of concrete and steel surrounding them.

Hemming in the fort at the end of the promontory is a little park laid out in the last century by Prince Michael, as a barrier between the Turkish barracks and the civil population. It still retains the old Turkish name, Kalemegdan (garden), and in summer is a favourite resort for the inhabitants. The panorama of the Danube seen from the shaded terrace of Kalemegdan is a view that can never be forgotten.



UPRAVA FONDOVA, STATE MORTGAGE BANK OF YUGO-SLAVIA

The principal banks in Belgrade are the Mortgage Bank, or Uprava Fondova, founded in 1862, the National Bank of the Kingdom, founded in 1883, and the Export Bank, founded in 1901 for the promotion of foreign trade. The first is the only large state institution of its kind in Yugo Slavia. It controls public funds, negotiates loans, and makes advances on mortgage to agriculturists.



PORTION OF KING PETER'S STREET IN BELGRADE CITY

Belgrade, or Beograd, signifies White City, and its pleasant clean streets and numerous stucco-fronted buildings amply justify the title. The Oriental aspect of Belgrade has almost disappeared, and handsome public institutions, electric lighting and tramways lend it all the up-to-date touches of a modern city. King Peter's Street, or Kralja Petra Uliza, was formerly known as Dubrovatschka Uliza.



E. N. A.

OLD-REGIME ARCHITECTURE SURMOUNTED BY A STORK'S NEST

Since its transference from Turkish to Serbian rule, Belgrade has assumed quite a European appearance. Nevertheless, in some districts bordering upon the rivers the quaintly built and often tumble-down houses still bear witness to the Moslem regime. This house in the Old Turkish Town near the Danube is carefully preserved, for here the first Serbian high-grade school was founded in 1819.

Sight-seeing is a simple matter. You have only to begin at the park and walk down the main avenue along the crest of the ridge in order to reach the principal buildings and to study the life of the people. The excursion may prove in a sense disappointing, for the city has no historic monuments, and its development since freed from vassalage to Turkey has swept away what little there was of picturesque charm. There are no bazaars, no medieval churches, no deserted mosques or old Turkish palaces. The cathedral is a severe stone structure, depressingly like a Georgian parish church in England, perched on the hillside below Kalemegdan; it would hardly be noticed by the tourist.

The hilltop avenue is the main artery of Belgrade. In order to reach it you must scramble breathlessly up steep and slippery side streets from the river level, or trust to the exertions of frantic, half-

starved horses as they drag your rickety carriage over the uneven stones. But once at the top you are well satisfied by this rambling thoroughfare without at first knowing why. Eventually it dawns upon you that the mere fact of being once more on level ground is curiously pleasant, and you realize why the residents living on the slopes drift upwards during the later afternoon and evening for the sake of walking solemnly in procession from the park to the royal palace and back again.

Like certain absent-minded streets in London, this avenue changes its name as it progresses, and— in an even more surprising way— changes its character as well. At first you are in Knes Mihailova (Prince Michael Street) which pretends that Belgrade is still a drab little city of plain-faced, low-roofed dwellings, interspersed by still humbler shops dating well back into the last century.

But this deception is not long maintained. The hustling real-estate speculators and their accomplices, the masters of concrete, are eating steadily into the fabric of the pre-War capital; and after a few hundred yards of provincial simplicity the visitor is ruthlessly plunged into the heart of new Belgrade.

The Serbs do not believe in hastening slowly when they are concerned with town planning. Reconstructing a city piecemeal—a brick at a time, so to speak—is far too tedious. They have hoisted entire blocks of glaringly up-to-date office buildings and apartment houses into the air, and consequently the Knes Mihailova suddenly finds itself decked with architectural ornaments more French than Slav: tall, assertive structures plastered above with statues of heroic size and frivolous little red balconies, and with a shining expanse of plate-glass below. During the first five years of peace 3,000 new houses were erected.

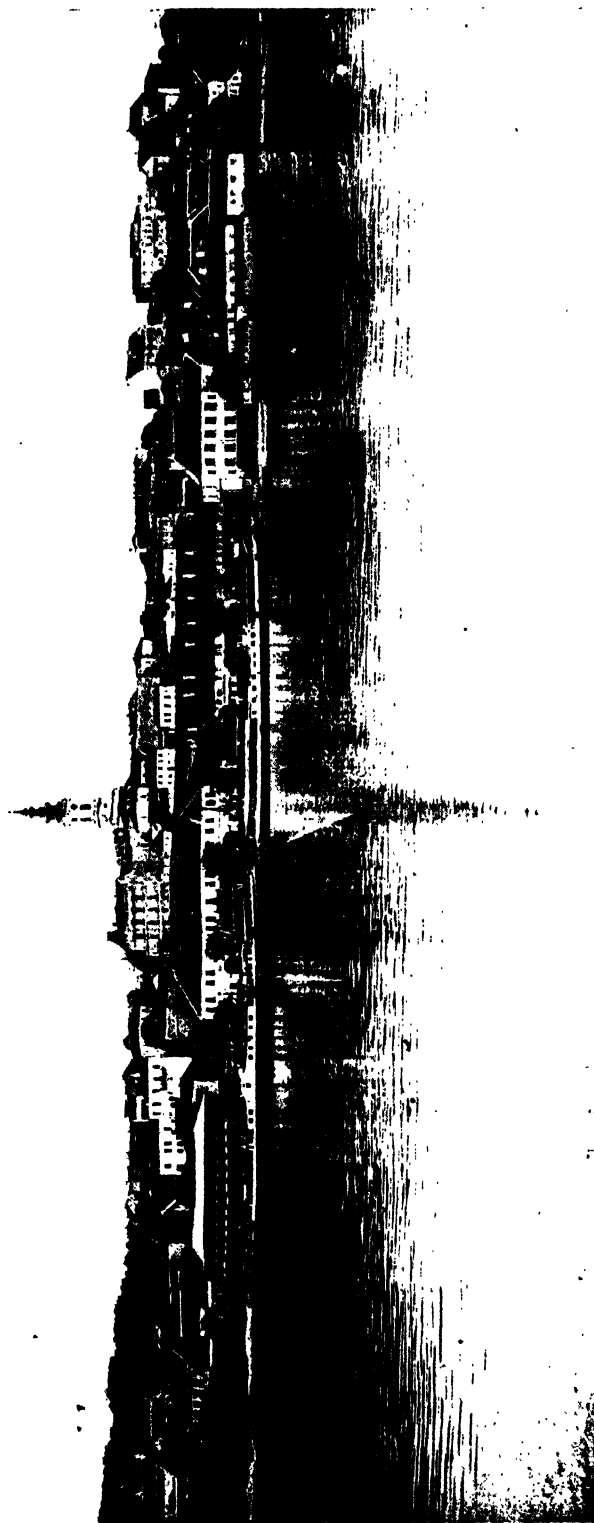
Here and there an all but submerged survivor of the old regime still peeps out sadly between lofty compositions in concrete, and at intervals a little group of "diehards"—insignificant one-storey wooden and whitewashed affairs—hang together in a futile last stand against the invasion of the lightning builders. But they make no impression. The general effect is one of uncompromising newness and a determination to outshine all the lesser Balkan capitals in splendour and proof of prosperity.

And so the street itself expands under the influence of this ambition. Rising in the social scale, it becomes the Krahmilanova (King Milan Street) and, widening out cheerfully, is inclined to follow the Parisian style in boulevards. You are invited to admire its spaciousness where it reaches the Moscow Café, for an ornate bandstand has been planted there as a kind of island in the stream of traffic, and this virtually marks the centre of the city.



CHARACTERISTIC DWELLINGS IN BELGRADE'S OLD TURKISH TOWN

Of the three old divisions of Belgrade—now only partially applicable—the Dortschol, or Turkish Town, on the Danube north-east of the fortress was the principal. The typical plaster walls and red tiled roof of the Turkish domicile are still to be seen in this old quarter, where a provincial simplicity prevails that contrasts strikingly with the modernism of later important extensions.



BELGRADE, CAPITAL OF THE SERB, CROAT AND SLOVENE STATE, VIEWED FROM ZEMUN IN SLAVONIA

The city of Belgrade, known until the seventh century by its Celtic name of Singidunum, lies on the south shore of the Danube at its junction with the river Save. Though possessing little industrial importance, the city enjoys considerable prestige as the residence of the king and the seat of government. Foremost among the principal structures are the cathedral, the lofty spire of which is seen above in the central background, the royal palace, the new parliament house, the university, the national library and the national theatre. Zemun, formerly in Hungary and known as Semlin, lies across the water directly opposite Belgrade.



GENERAL VIEW OF BELGRADE, AN IMPORTANT STRATEGIC POINT AT THE JUNCTION OF THE SAVE AND DANUBE
 The old town of Belgrade was originally encircled by walls, pierced by several gates, but only mere fragments of these ancient fortifications are still in existence. As a fine strategic point the city has long been recognized; in the Roman times it was an important military camp and frequently changed its masters during the early centuries of the Christian era. In the ninth century it was captured by the Bulgarians and from that time passed successively under Byzantine, Hungarian, Serbian and Turkish rule; it was finally transferred to Serbia in 1860. During the Great War it experienced two severe bombardments



BROAD STRETCH OF THE SAVE RIVER AND THE LOWER TOWN

Situated mainly on an eminence which slopes down on the one side towards the Save on the other² towards the Danube, Belgrade may be said to consist of the upper town, containing the citadel, and the lower town on the river bank. Across the water on the right is seen a tongue of the Zemun district from which the famous Vienna-Constantinople railway bridges the Save to reach the capital.

A seat on the terrace of the Moscow Café during apéritif time, or on a pleasant summer evening, affords an excellent opportunity for studying the types and personalities of Belgrade. The entire population appears to be on parade in an aimless, good-humoured way. One realizes that, despite the showy superstructure of a smart Western city, the real life of the Balkans underlying it is emphatically different from that of its more sophisticated neighbours on the other side of the Hungarian plain. Peasant costumes and Paris fashions are unexpectedly mixed in the slow-moving throng. As smart frocks are to be seen in the Kralmilanova as in the Rue de la Paix; nor does the Belgrade "young man about town" differ from his brethren in other cities, which are ministered to by expensive tailors. They excite as little notice as do the martial-looking Montenegrins in their jaunty little embroidered jackets and "pill-

box" caps and the Albanians in mountain dress newly arrived from their refuges in the southern hills.

The dress parade on the Kralmilanova has a decidedly military tinge. Officers of the regular army seem to favour tight khaki tunics covered with bright ribbons and little enamelled crosses; but there are others in the more imposing uniform of the royal guard, also the cadets from the government Academy and representatives of the "navy" in blue frockcoats with gold markings and heavy epaulettes. The army, however, is supreme. Soldiers in worn service uniforms are encountered everywhere; even the police are a species of soldiers and they patrol the streets with short rifles strapped to their backs. The church is represented by bearded, fatherly looking priests in voluminous cassocks and by monks with long hair. When a funeral passes down the Kralmilanova you see the full splendour of the Greek ritual in the heavy

gold-embroidered copes worn by the clergy who walk three abreast by the open bier.

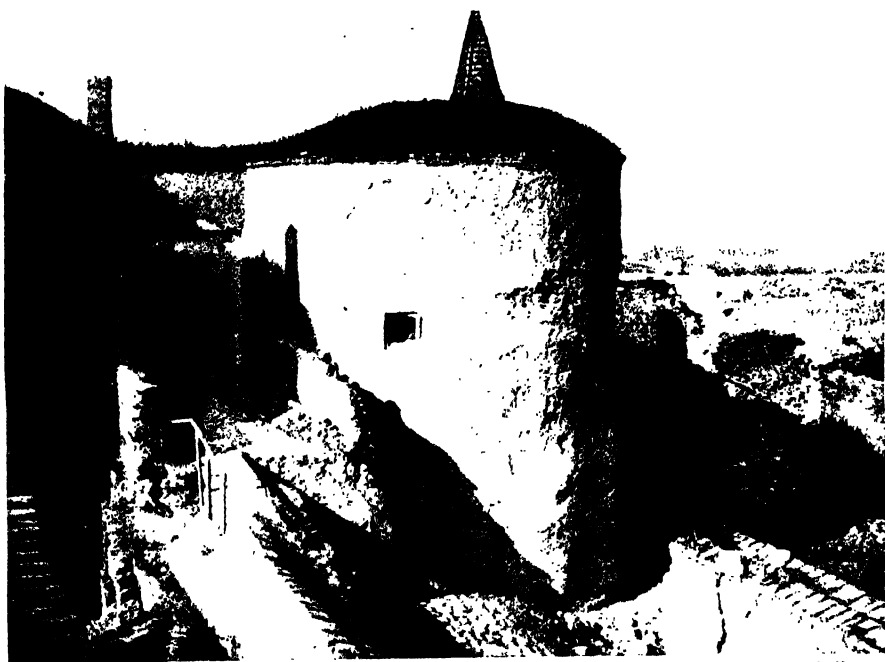
A pathetic note in the martial pageant is struck by the Russian refugees who wander about in faded, much-darned tunics still adorned with their service medals and the decorations won in Tsarist days. There are thousands of Russians in and around Belgrade, including the greater part of the army which fought under General Wrangel in the Crimea. They are engaged in all kinds of work. An ex-general who commanded an infantry division during the Masurian lakes campaign sells newspapers in the hotels and cafés, and a prince is glad to run errands at the Moscow Café. There are Russian restaurants in the side streets where these exiles gather nightly and listen to their national songs.

The street second in importance is Milosh Veliki (Milos the Great) which crosses the Kralmilanova, and here are

to be found most of the government offices-- modestly housed-- and the temporary quarters of the Skupstina (Parliament House), a plain wooden structure with no pretensions to architectural beauty. In the little square hard by the Kralmilanova is the new Royal Opera House, also a post-War product, in concrete. Milosh Veliki leads to the district known as Topchider, a favourite residential quarter where there is a royal villa and many fine modern mansions.

Even the royal palace has grown and put on new dignity since King Peter first came back from his long exile in Switzerland to re-establish the Karageorgevitch dynasty.

He lived in a comfortable but unimposing residence from the first-floor windows of which he was accustomed to watch the animated scene in the street below. His son Alexander, the first King of the Serbs, Croats and Slovenes, occupies a larger



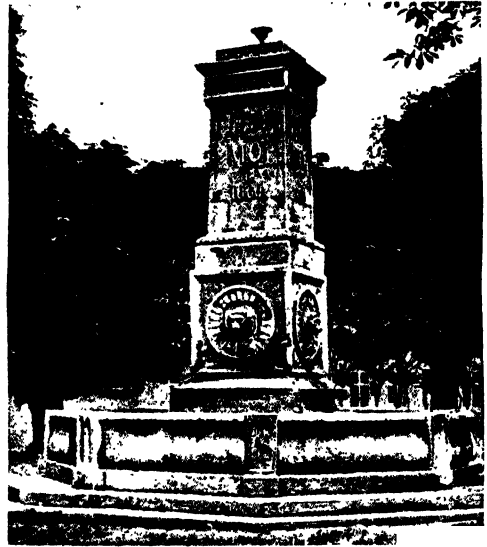
B. N. A.

OLD-WORLD FORTRESS CROWNING BELGRADE'S HEIGHT

Set on a limestone rock, 150 feet high, the imposing citadel of Belgrade commands an extensive view of the surrounding countryside. The walls and towers of this ancient stronghold, mellow with age, have been ruthlessly scarred by time's passing and various bombardments, and present a truly dilapidated appearance. Nevertheless, the hoary fortress still proves useful as barracks

and more splendid palace facing the old one. It is rather like a large country house transplanted to the edge of a busy street. The king and queen live simply and go about among their subjects in very democratic fashion. Save for the stalwart sentries of the Household Guard posted at the entrance gates, you would not know that theirs was a royal residence.

So intent have the Serbs been on erecting a new capital at break-neck speed that they seem to have neglected certain essential improvements. The traveller is made unpleasantly aware of the bad street paving, for even the Kralmilanova and its neighbours of the better class are but indifferently shod, and in wet weather there is mud everywhere. The general effect of the splendour overhead and the insecurity



PRINCE MICHAEL'S WELL

To the south of Belgrade is the park of Top-schider, where stands this stone well, erected to the memory of Michael Obrenovitch



CENTRE OF THE SERBIAN STATE RELIGION

Despite the important part Belgrade played in history the city contains few historic monuments, but several fine modern buildings stand forth prominently, not least being the cathedral where the Head of the Serbian Orthodox Church has his throne

underfoot is that of a man who is proudly wearing a new suit of clothes but the same old boots. It would be impracticable, however, to give a smooth surface to the hilly streets which form the ribs of Belgrade, for when ice and snow cover everything wheeled traffic finds it difficult to ascend to the higher level of the city.

The city suffers from insufficient water and electric light supplies, but these drawbacks will be dealt with, and the energy already shown in municipal improvements is sufficient guarantee that all the necessities of a modern capital will eventually be provided for Belgrade. The Serbs are very proud of their city, and they are not afraid of comparisons with their Balkan neighbours who have gone more slowly along the path of progress.

BENGAL, BIHAR AND ORISSA

Rich River Lands of Eastern India

by Edward E. Long, C.B.E.

Author of "The All-India Moslem League," "British Rule in India," etc.

LANDS of broad rivers winding their way to the sea through rich plains thickly clad with vegetation of an extreme luxuriance, flanked in the north by the sombre hills of the Forbidden Land of Nepal and by mighty Himalayan ranges, in the south by the lofty plateau of Chota Nagpur, Bengal and Bihar, though they differ somewhat in soil, climate and people, and possess a separate government, are one in a geographical sense, for they are united physically by the great Ganges. They form an extension of the great Gangetic Plain which, commencing at the base of the Himalayan hills near Simla and extending 1,000 miles eastwards to the Bay of Bengal, is one of the most distinctive physical features of India; for within its territory the chief kingdoms of ancient India were established: here the great centres of Indian civilization rose and fell.

Wedge Between India and Burma

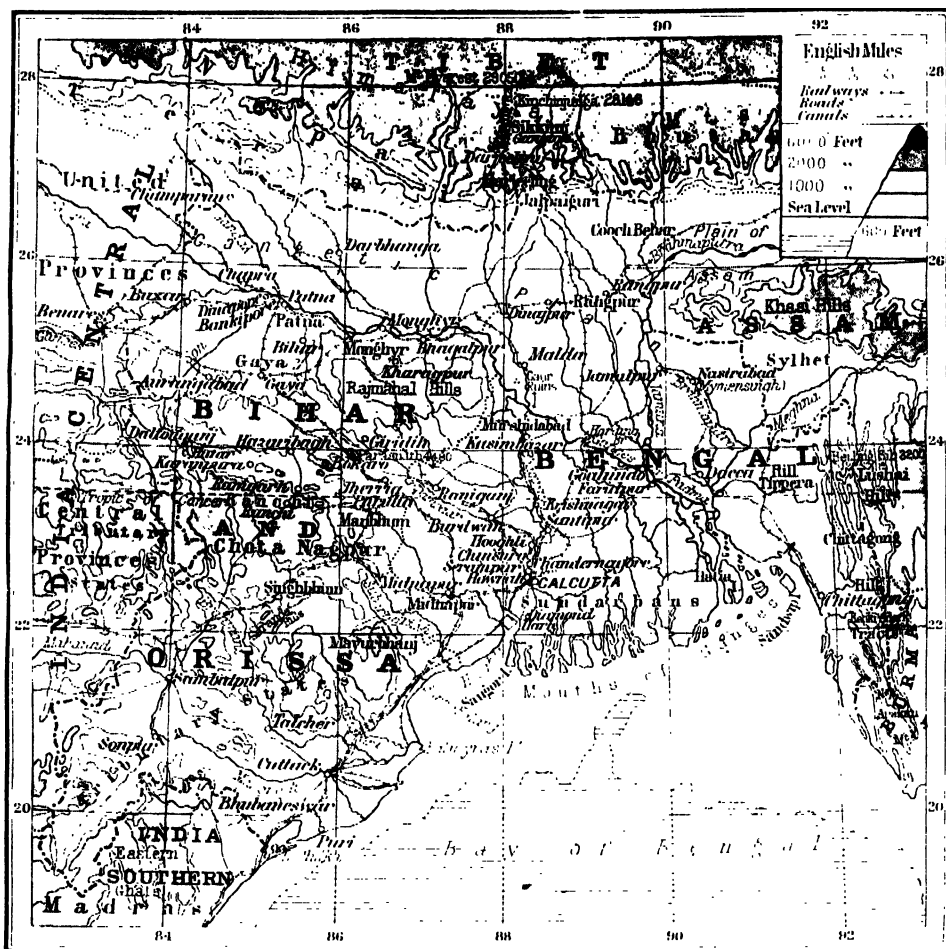
Comprising with Assam the entire north-eastern portion of India, the region comprehensively called Bengal, Bihar and Orissa, with the native states of Cooch Behar and Hill Tippera and the tributary states of Chota Nagpur and Orissa, cover an area of 196,000 square miles. In shape the territory is a broad wedge driven between India and Burma from the head of the Bay of Bengal to the Himalayas, shutting off Assam from the sea, throwing out a wide spur, Orissa, into India on its left, and projecting with Chittagong into Burma on its right like the sharp-pointed tooth of a dog.

Its boundaries in the north are the mountain ranges of Nepal, Sikkim and Bhutan. The first-mentioned, with its

wide belt of Terai lands often clothed with dense forest, is in places quite impenetrable, excessively malarious during the wet season, harbouring hordes of ferocious wild animals, and always guarded by jealous Gurkha sentries. In the east the plains of Assam, the Lushai hills and the ranges of northern Arakan in Burma form the border country; southwards lie the Bay of Bengal and the hilly butt-end of the Madras Presidency; while in the west the Central Provinces and the United Provinces provide the boundary - the former mostly with hilly ground and river, the latter with the level lands of the Gangetic Plain.

A Network of Waterways

An airman flying due south over the Darjeeling district of Bengal would descry beneath him, as he passed from the tea-terraced slopes of the Darjeeling hills to the plains of northern Bengal, a broad, cultivated, level tract of land unbroken by hills but threaded in all directions by rivers large and small forming a veritable network of waterways. As he neared the sea this would give place to a labyrinth of creeks and rivers; if it were the wet season it would be an immense lake mottled with dark, forest-clad islands fringed with sandy shore. Turning and flying eastwards he would perceive a rampart of hills by Chittagong and Hill Tippera; reversing once more and flying across the many mouths of the Ganges to the coast of Orissa he would see another tract of flat, alluvial land near the coast, gradually rising hills inland, then a succession of mountain ranges of moderate altitude; and turning northwards over Chota Nagpur, wide plateaux



VAST ALLUVIAL PLAINS OF BENGAL, BIHAR AND CRISSA

of rugged formation sending out hill spurs to the right which project boldly into Bihar and Bengal.

Passing on across southern to northern Bihar, his flight would take him over hilly ground to level, well cultivated plains once again intersected by river and stream and cleanly divided by one river of majestic breadth, the Ganges, bringing from the icy fastnesses of the great Himalayas a mighty volume of water to the teeming millions of Bihar and Bengal, and, what is of almost equal worth, a vast store of rich silt, toll of the fertile highlands.

Except the Singalila Range, which strikes southward from the great peak of Kinchinjunga in Sikkim and possesses peaks reaching an altitude of 12,000

feet, Bengal has no lofty mountains; but in Orissa there is a succession of magnificent ranges, northern spurs of the eastern Ghats, with fine valleys between. Crags and peaks of a wild beauty overhang river channels so narrow in places that the flood rush of water causes a rise of 70 feet. The hills are densely wooded to the summit, and though the height of the highest peaks is somewhat under 4,000 feet their grandeur is most imposing.

North of these lies the extensive and diversified tableland of Chota Nagpur, an extension of the great Vindhyan system of Central India, which from its highest points affords magnificent views. It has an elevation of 2,000 feet and consists of three

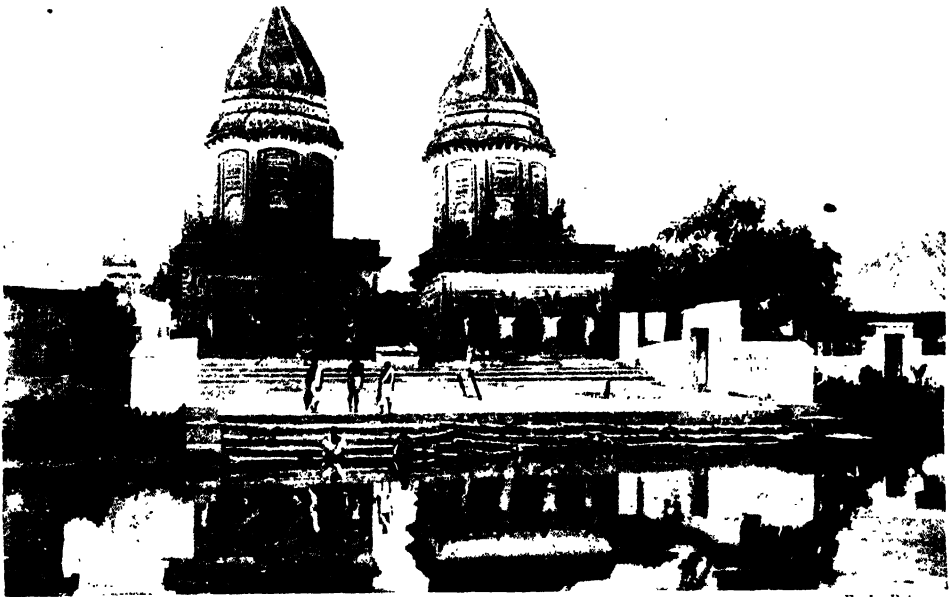
plateaux divided by belts of rugged hill and ravine, from which hill ranges extend northwards to Monghyr in Bihar and north-eastwards to Bengal (the Rajmahal hills), while outlying spurs project far into the plains of south Bihar and western Bengal. One of these spurs, the Saranda hills in the Singhbhum district, reaches a height of 3,500 feet, while another, Parasnath, 4,480 feet high, stands out by itself boldly, a landmark for all and a lofty shrine for Jain pilgrims. The mountains of Hill Tippera and the Chittagong Hill Tracts have a certain wild beauty, but the former do not exceed 3,000 feet, except at one point—Betling Sib (3,200 feet); the latter, very difficult of ascent, attain an altitude of 4,304 feet in the peak of Keokredang.

The coasts of Bengal and Orissa are everywhere alluvial and flat, the former with harbours situated up rivers miles inland. Interesting is the process of land formation which goes on owing to the silting-up of river channels. First

islands appear, these then join the mainland, and thus the coastline increases and alters in aspect. In this manner were created the Hatia and Sandwip Islands, long notorious as a nest of Portuguese and Arakanese pirates, who harried the coasts of Bengal in the seventeenth century. The only lakes are a string of small ones at Champaran in north Bihar and Lake Chilka in southern Orissa.

The most distinctive feature of Bengal and Bihar is their network of rivers, mostly in the alluvial plains and deltas of the Ganges and the Brahmaputra, though quite a large alluvial coastal strip of Orissa is formed by its principal rivers—the Mahanadi, Brahmani, Baitarani, Burhabalang and Subarnarekha, which flow into the Bay of Bengal from the Orissa and Chota Nagpur highlands.

The Ganges, swollen to noble size ere it enters Bihar from the United Provinces by incorporation with its great tributaries, the Jumna and the Gogra, becomes vastly broader, and is an



F. I. Peters

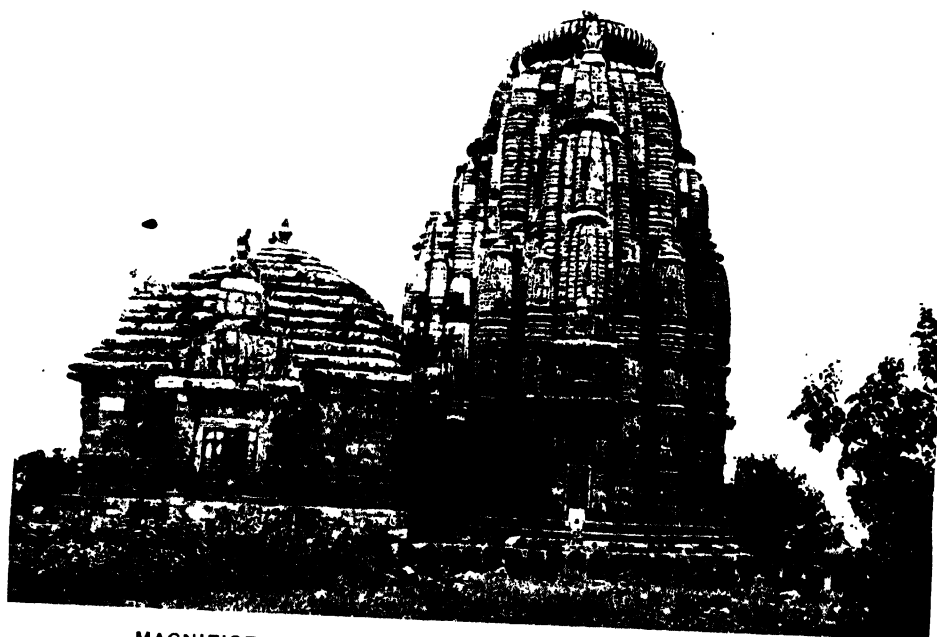
CRUMBLING TEMPLES OF NASIRABAD BY THE BRAHMAPUTRA

Nasirabad, once known as Mymensingh, stands on the right bank of the old channel of the Brahmaputra in the Mymensingh province of Bengal and some 75 miles north of Dacca. It plays an important part in the river-borne traffic, which is mainly in jute and rice. The town was visited by an earthquake in 1897, as the shattered steps and cracked portico of the left-hand building show



ELEPHANT MAKING ITS WAY THROUGH THE JUNGLE TO A SHOOT
 On the railway 37 miles from Gaya is Gujhandi; and it is in the surrounding jungle country that this photograph was taken. It shows a hunter making his way to a shoot mounted on a "pad" elephant—that is, one used for riding and not haulage. The Indian elephant is one of the only two existing species and is bulkier and has smaller ears than the African kind

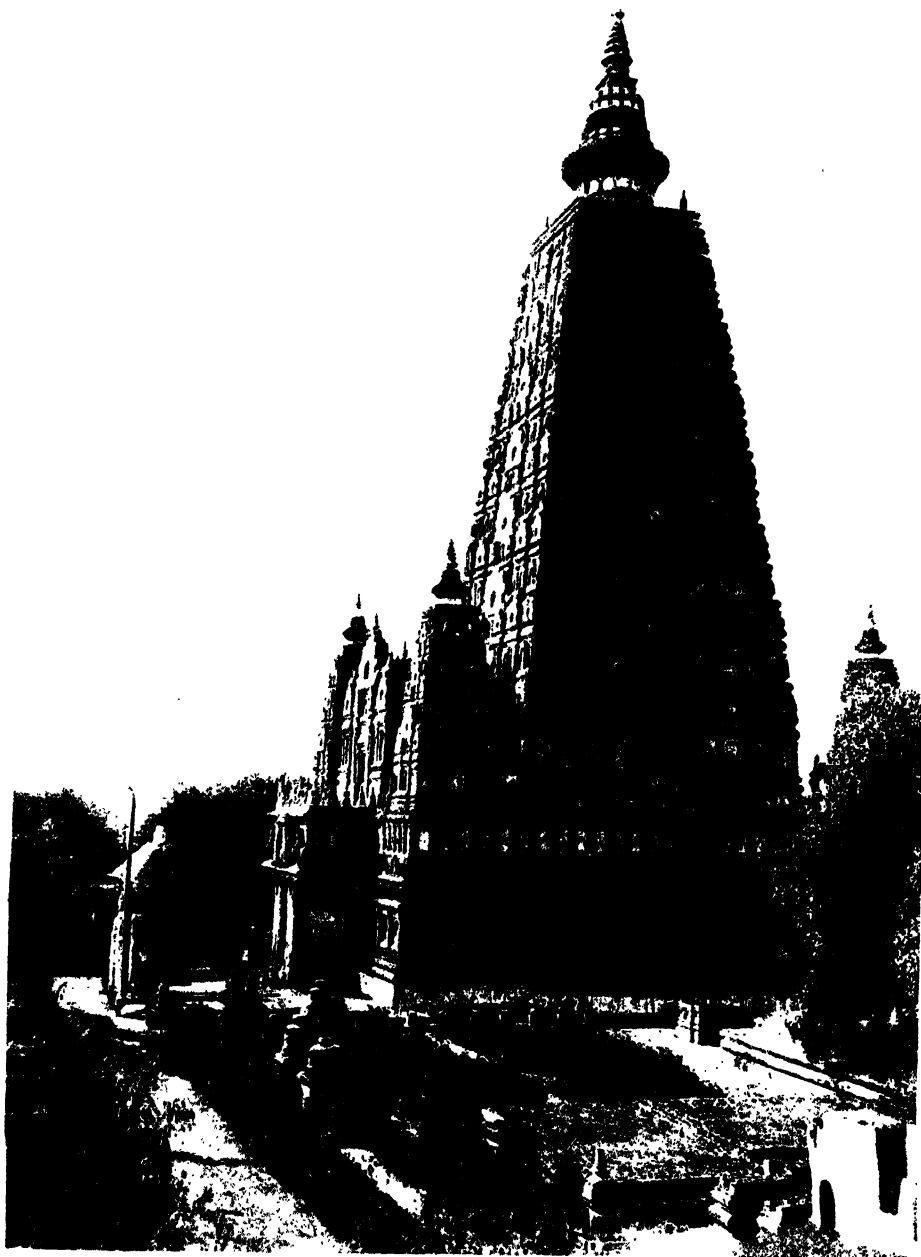
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MAGNIFICENT ARCHITECTURE OF A TEMPLE IN ORISSA

F. I. Peters

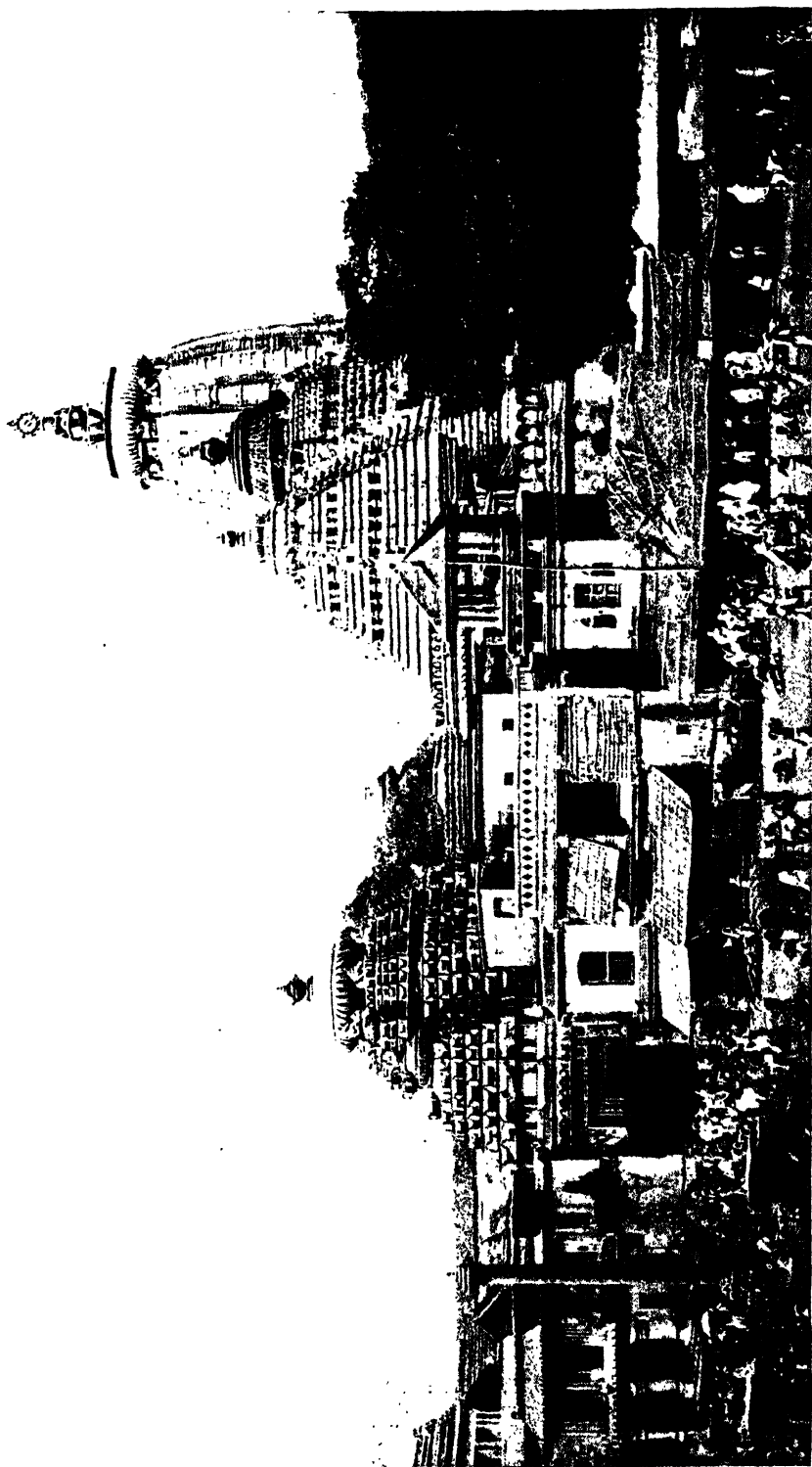
At Bhubaneswar in Orissa are several hundred great Hindu temples of various degrees of splendour, relics of a traditional 7,000 that encircled the sacred lake; one of these is illustrated here. The great cone of the "shikhara" is ornately carved and there is lavish decoration with symbolical figures. Dating, as some of them do, from the seventh century, they have been restored but not spoiled



F. I. Peters

BUDDH-GAYA, MOST SACRED SITE IN THE BUDDHIST WORLD

There is no other temple in all India to compare with the great temple of Gaya in Bihar. It was erected on the site of the shrine built in the third century B.C. by the great Asoka to mark the spot where Gautama became the Buddha. Throughout the ages it has been the goal of pilgrims from all parts of Asia, and the traveller is at once struck by its grace and its dignity.



F. J. Peters

TEMPLE OF THE "LORD OF THE WORLD" AND HIS JUGGERNAUT CAR, AT PURI IN BENGAL

In a district of the same name in the Cuttack division of Bengal stands the famous town of Puri to which sometimes as many as 250,000 people flock on the occasion of the annual festival in honour of Krishna. His image, called Jagannath or Lord of the World, is housed in the magnificent 800-year-old temple shown above, but once a year is dragged forth in a colossal car which has become proverbial for inexorable progress. Stories of self-immolation beneath its wheels are much exaggerated. The town, with a population of nearly 40,000, stands on the Bay of Bengal and is in use as a health resort for Europeans.

awe-inspiring spectacle during flood time. Flowing eastwards and gaining fresh strength from two other tributaries, the Gandak from the north and the Son from the south, it cuts Bihar and western Bengal in half, and then turns sharply south-eastwards, throwing off a subsidiary stream, the Bhagirathi, which proceeds southwards to Calcutta, and thence, as the Hooghli, to the sea. The Ganges flows on to mid-Bengal and at Goalundo joins the Brahmaputra, one of the grandest rivers in the world, 1,700 miles in length, which retains the proud distinction of being unbridged.

The Brahmaputra entering Bengal in the north-east from the plains of Assam flows on due southwards to meet the Ganges, and from Goalundo these two mighty rivers flow as one (the Padma) to the Bay of Bengal, their channel widened yet further by the inclusion of the Meghna from the Khasi hills of Assam, noted for its great tidal wave.

Deltas as Big as England and Wales

The deltas of these three great river systems cover an area of no less than 50,000 square miles, very nearly equal to that of England and Wales, its lower part, split up into innumerable waterways by the many estuaries of the Ganges, being known as the Sundarbans, a region of swamps and morasses, some filling up, others in course of formation—a maze of rivers and streams enclosing numbers of islands of every shape and size.

Although the greater part of Bengal and Bihar lies just outside the tropics, for about two-thirds of the year the climate is tropical. From the middle of March to the end of October it has two distinct weather periods—dry and wet; the former lasting from mid-March to the middle of May, the latter from May to nearly the end of October. During the dry period high temperatures are experienced, a mean on the plains varying from 80° to 90° F., but the intense heat is mitigated by violent storms known as nor'-westers, generally accompanied by

heavy rain and occasionally by hail. There is a marked difference between Bengal and Bihar during the dry season, the latter being swept by hot, dry winds from the west, and having higher temperatures but less humidity. In the wet season, ushered in by a strong south-westerly wind current which blows up the Bay of Bengal, the temperature falls slightly, but humidity increases, and the heat is less bearable; relief is always at hand, however, on the heights of Darjeeling for those who are able to make the journey thither, where it is pleasantly cool and refreshing.

Effect of Climate on Europeans

At the end of October northerly winds set in, blowing down from the mountains, the temperature falls to a mean of about 64° F., humidity decreases considerably, and from November to February, inclusive, there is dry, cool weather, with practically no rainfall.

Although great variation in temperature occurs throughout the year, from a minimum of 52° F. in the coldest period to 103° in the hottest, the diurnal range is not great, averaging not more than 20° or 21° in November to January, 18° in May and 10° in July. Darjeeling has the lowest mean, 40° in January, and Cuttack in Orissa the highest, 90° in May. On the whole, Bengal is not unhealthy, even for Europeans if they live carefully, but continued residence therein without a change in the hills, or better a voyage to Europe, tells upon most people.

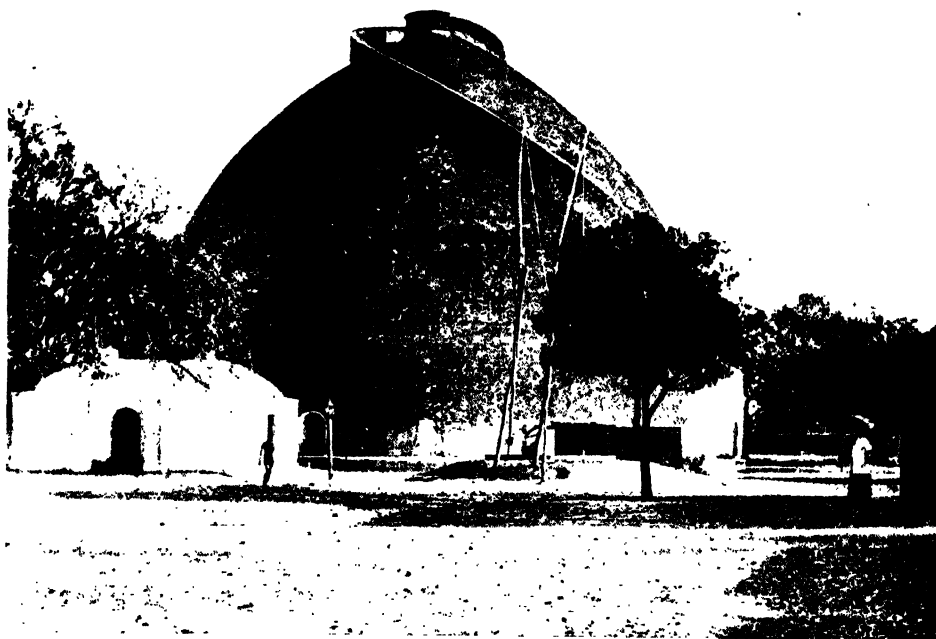
Cyclones and Devastating Floods

Rainfall is greatest along the coast, in the north and east, and in the inland districts of Orissa, and is least in Chota Nagpur, western Bengal and south Bihar. It varies from 122 to 229 inches in Darjeeling to 42 in south Bihar. The average rainfall in the western tract is only 52 inches as compared with 73 in the eastern and rain commences much earlier in the north and east than it does farther west. It is, however,

largely dependent upon local conditions, and its fluctuations are so irregular that while devastating floods not infrequently occur from an excessive rainfall, the rains occasionally fail, and the hilly districts of Orissa and Chota Nagpur and south-west and north Bihar and north Bengal have sometimes experienced serious droughts. Bengal is also subject to severe cyclones, especially on the coast of eastern Bengal.

best of all possible manures. The soils of the other parts are mainly gneissic, laterite and old alluvium, all of which require artificial manures.

Vegetation is very luxuriant, the soil teeming with every product of nature in such profusion that it is capable of supporting one of the world's densest populations. In Bengal and Bihar the vegetation is diluvial, most of the species both wild and cultivated being wide-



RELIC OF WARREN HASTINGS: GIANT GRANARY AT BANKIPORE

To the west of Patna is the suburb of Bankipore, important in the Patna district as a railway junction. Its most remarkable building is this huge grain or rice store called the Gola. It was erected by order of Warren Hastings (1732-1818), the ill-fated governor-general of India, as a precaution in case of famine. It measures 426 feet round the base and 96 feet in height.

Earthquakes visit the province occasionally, the last one of any considerable severity occurring in 1897, in north and east Bengal, where much damage resulted.

More than half the whole area of Bengal—the eastern—is composed of the rich alluvium brought down by the rivers, the top soil varying from sand to clay and the greater part being a light loam. Moreover, the rivers which have made the soil enrich it annually, for the silt they bring down when in flood is the

spread in the eastern tropics. Bihar, with a mainly annual turf, has the crops and weeds of Upper India, and its forests in the south are open and park-like; Bengal has perennial turf, and except in the extreme north the forests are mixed with reedy grasses sometimes replaced by savannahs. East of the river Bhagirathi the greater part of the country is a vast aquatic rice-plain with patches of jungle on river banks and marshes, sluggish streams and pools filled with water-plants. This is intended as one proceeds



F. Deavillo Walke

LONE VILLAGE HIDDEN AWAY IN A LEOPARD-HAUNTED JUNGLE

This photograph was taken from the roof of a house belonging to the chief landowner in the locality. The houses, like those in most jungle villages, are of mud and thatched with straw. The jungle in this vicinity, the Midnapur district about 100 miles west of Calcutta, is infested with leopards. In these villages one finds a self-supplying community complete with carpenter, potter and smith



F. J. Peters

ELEPHANTS AND DEVOTEES IN THE HAPHAZARD CONCOURSE OF A YEARLY HINDU FAIR

At Singheswarthan, on a northern tributary of the Ganges in the Bhagalpur district of Bihar, is held every year what is known as a "mela"; it is a kind of fair in connexion with a Hindu religious festival, and here pilgrims are seen bathing and paying their devotions at the shrine. Bhagalpur district is a very heavily cultivated area, maize, wheat and rice being grown, of which the last named is far the most important crop and is exported in considerable quantity. Altogether three-quarters of the total area have been brought under cultivation.

eastwards, where during the rains the rice-swamps become vast inland fresh-water seas, picturesquely dotted with grassy, floating islets, until the Sundarbans are reached; here the partially submerged islands are densely covered with Malayan shore forest and mangrove swamps and the flora comprises no fewer than 300 indigenous species of flowering plants. In the north the flora changes gradually from tropical to Himalayan; the lower ranges of the hills are covered with dense forest, a similar forest skirts and ascends the hills of the Chota Nagpur plateau, and the Orissa highlands have a vegetation mainly of the central Indian type but sub-temperate on the higher peaks, while the plains, with rice-fields, resemble those of Bengal.

Fauna of Forest and Jungle

The forests, mainly under the control of the Bengal Forest Department, cover an area of over 12,000 square miles and contain a great number of species very varied in character. The trees most widely spread and most useful are the "sal" (*Shorea robusta*), a very hard and tough wood, and the bamboo, and in reserved areas teak, mahogany, canes, mulberry and rubber-trees are cultivated. Scientific forest management dates from the year 1854. Before that time reckless exploitation ran riot; now an excellent system of conservation is in force, the forests are a considerable source of revenue, and experimental work is always being carried out.

In olden days Bengal was the home of dangerous wild animals and the elephant, rhinoceros and wild buffalo frequented the dense jungles which have since given place to cultivation; but these are now to be found only in the more remote tracts, such as the Sundarbans and the jungles of Jalpaiguri, Chittagong and the Orissa States. Tigers still exist, though not in very large numbers, and do a good deal of damage in places, while leopards, bears, wild hog and deer are plentiful and other animals include monkeys, wolves,

jackals, wild cats, wild dogs, hares, squirrels and the mongoose, and mice and rats are a pest. The waters of the Sundarbans and elsewhere are infested with crocodiles which are dangerous to man and beast, and the cobra, python and many other varieties of snakes are to be found in the jungles.

Chorus of Wild Birds

Domesticated animals are buffaloes and oxen, the latter small and weakly, both used for draught and milch purposes only; a weedy kind of horse known as a "tat"; goats of a small breed; sheep (the Patna variety the best); and pigs. Cats, dogs and rabbits are fairly common; the domestic fowl is reared, also the duck, goose, turkey and guinea-fowl.

Wild birds are extremely numerous, including, besides many European species, such well-known Indian varieties as the "bulbul" (the Eastern nightingale) and the "mina," a good talking bird. The jungle contains much game such as partridge and pheasant.

The scenery of Bengal and Orissa is very charming at certain seasons of the year. During the hot, dry months groves of bamboo, areca and coconut palms, tamarind, "pipal" and other trees form pleasant patches of vegetation restful to the eye amid the drab and dusty plains, while in the rains, from the time when the young rice seedlings cover the ground with a delicate green mantle until December when their golden harvest is reaped, the landscape is often very lovely.

Flowers in Riotous Profusion

Flowering creepers of gigantic size and gorgeous colours festoon the trees, while each village tank bears its own beautiful crop of lotus and water-lily. Vegetation is scantier in south Bihar, and except for occasional groves of mango trees the ground, when the crops are harvested, is very bare until the maize, millet and rice sowings germinate. North Bihar is more thickly wooded; but it does not equal Bengal.



F. Deaville Walker

HOW IRRIGATION PROBLEMS ARE SOLVED IN BENGAL

On the right of the road is one of the huge, shallow, artificial ponds, sometimes approaching the magnitude of lakes, that have been dug out of the soil to conserve the water from the monsoon rains. In front is an ox-cart, the usual vehicle for the natives of Bengal, whose driver is protected from the sun by an awning of grass thatch. The animals used are water-buffaloes.

The cultivated lands supply a wonderful wealth of valuable crops and products. The slopes of the hills in the north and east are terraced with dark-leaved tea-plants; the plains are covered with fields of rice, barley, wheat, oats, gram, millet, maize, rape, mustard, linseed and other oil-seeds; jute, hemp, cotton, tobacco, quinine, indigo, poppy (opium), ground-nuts, sugar-cane, turmeric, ginger, coriander, aniseed and cumin; such garden produce as potatoes, yams, pumpkins, onions, chillies and garlic; and during the cold weather most of the vegetables common to Europe. Among cultivated fruits figure the delicious mango those of Malda being renowned throughout India—pineapple, custard-apple, "li-chee," jack-fruit, plantain, guava and many varieties of fig and melon, while parts of eastern Bengal have coconut plantations.

Rice is the principal crop, 85 per cent. of the cultivated area of Bengal and 48 per cent. of Bihar being devoted to

it, and the yield is more than all the rest of India and Burma put together. Just over 6,000,000 acres in Bihar are sown with barley, wheat, pulses and oil-seeds, and in Bengal nearly 1,500,000. In Bengal jute takes up 2,500,000 acres and tea 173,200. Rice-growing in Bengal is so highly specialised that within the single district of Rangpur nearly 300 separate kinds of rice are said to be distinguished; there are three crops, the principal one being sown in May and reaped in November. The Government Agricultural Department, always endeavouring to improve the quality of rice seed, has lately succeeded in producing varieties yielding from 246 to 492 lb. per acre more than the average seed, with its yield of slightly over 11 cwt. per acre for the winter crop, the heaviest.

More than 56,000,000, or 71 per cent. of the entire population of Bengal, are supported by agriculture, and of every 100 agriculturists 89 are rent-paying



F. Deaville Walker

BENGALI VILLAGE ON THE OUTSKIRTS OF CALCUTTA

Here is another irrigation pond artificially made to store the monsoon floods. The water is led to the fields by rough dykes and men may sometimes be seen helping the precious liquid along with a palm leaf or even with their feet. This pond will also provide good bathing and perhaps even drinking water for the villages. The village is on the road from Calcutta to Barrackpur



VIEW FROM THE DARJEELING HILL STATION WITH ITS COLOSSAL BACKGROUND OF HIMALAYAN GIANTS

F. I. Peters

Near the southern border of Sikkim, a state under British protection, lies Darjeeling, one of the chief hill sanatoria in the Himalayas. It lies at an altitude of 7,346 feet and more than one-third of the district is covered with forests. The chief attraction is its sequester of inexpressible grandeur, with unrivalled views, such as this one, looking across lofty hills and a vast chasm of mist to the stupendous Kinchinnunga, 28,446 feet, the third highest mountain in the world, rising from a glittering white wall above the line of perpetual snow. The majestic culminating of a great spur which extends south from the main Himalayan range.



SCENE IN THE MUNICIPAL MARKET OF DARJEELING

F. I. Peters

Less than a quarter of the Darjeeling district is cultivated, and the chief industry, introduced in 1856, is the growing and manufacture of tea, while rice, maize, cotton, jute and other ordinary crops are successfully produced. The markets of Darjeeling are prosperous and the bulk of the wares is drawn from the neighbourhood, whose productive powers in only depend on native enterprise

tenants, 9 are agricultural labourers, and 2 live on their rents. The rotation system of cropping is known and followed, but a system of mixed crops is also in vogue which serves the same purpose.

The agriculturists of the east are much better off than those of the west, deriving considerably higher profits, especially from jute, and they enjoy a far larger measure of rights in the soil. Those who live in the Ganges and Brahmaputra deltas suffer from one great disadvantage: the courses of the rivers are changing constantly, land being cut away from one bank and thrown up on the other; but they have this advantage, that the deposition of river silt on their lands gives them an even surface, whereas the agriculturists of other parts, particularly in Bihar and Chota Nagpur, often have to build

embankments and construct small terraces, involving a good deal of manual labour, in order to form their fields. The area under cultivation is being increased steadily by felling forests, reclaiming the sandy islets which form constantly in the big rivers, embanking lands in littoral tracts and filling in swamps. Irrigation is far less essential than in other parts of India and is almost unknown in parts of Bengal proper, but there are important systems of irrigation in Orissa, in the Midnapur district of Bengal and in the Champaran district of Bihar where the waters of the Gandak are utilised.

Fishing is quite an important industry. The waters of the Bay of Bengal, the rivers large and small and the swamps swarm with fish, while prawns and crabs are caught in myriads. Best of the salt-water fish are the

"bukti," the "tapti" or mango-fish, the mullet, pomfret and sole. The Bengali is a clever fisherman. He trawls at sea from a sailing-boat, fishes streams from weirs, drags tanks and ditches, angles, and uses cast-nets, whilst stream-lets are studded with hundreds of wicker fish-traps and prawn-cages are everywhere. The marvel is indeed that any fish should escape at all!

Geological Medley of Soil and Rock

The greater part of the plains of Bengal being covered with alluvium, interest geologically is centred chiefly in the Chota Nagpur plateau, of which gneissic rocks form the nucleus, fringed on all sides by transition rocks and inter-bedded freely with micaceous, siliceous and hornblendic schists. Transition rocks are found in south Bihar in groups of isolated hills, in the Ranchi district of Chota Nagpur and in the Singhbhum and Manbhum districts of Orissa, and they carry metalliferous lodes. Of paramount importance is the Gondwana system—patches of Gondwana strata faulted into archæan schists and gneisses—containing coal-bearing strata; it occurs in the Rajmahal hills, the Damodar valley, several Chota Nagpur districts and the Orissa highlands, and has given Bengal and Bihar one of their principal industries—coal-mining.

Wealth of Iron and Coal

The principal coal-fields are those of Raniganj, Jherria and Giridih, the last producing the best steam coal in India. In 1907 an official estimate of these fields held them to be capable of producing 14,000,000,000 tons; they all lie within 200 miles of Calcutta and are easily accessible by rail. There are other good fields at Daltonganj, Karanpura, Bokaro, Ramgarh, Hutar and Talcher, all of which are giving good results. The maximum thickness of the coal seams is 95 feet and the portions worked vary from 2½ to 45 feet. The method follows the European.

Bengal, Bihar and Orissa are the only provinces in India at present in

which iron is mined for smelting by European methods. The chief ore deposits are in the Singhbhum and Manbhum districts of Bihar and at Mayurbhanj in Orissa, and in the year 1919 just over 300,000 tons of pig-iron, 113,222 tons of steel, 31,665 tons of iron castings and 1,183 tons of ferro-manganese were produced. Mica occurs, of a good quality, in the Gaya, Hazaribagh and Monghyr districts of Bihar.

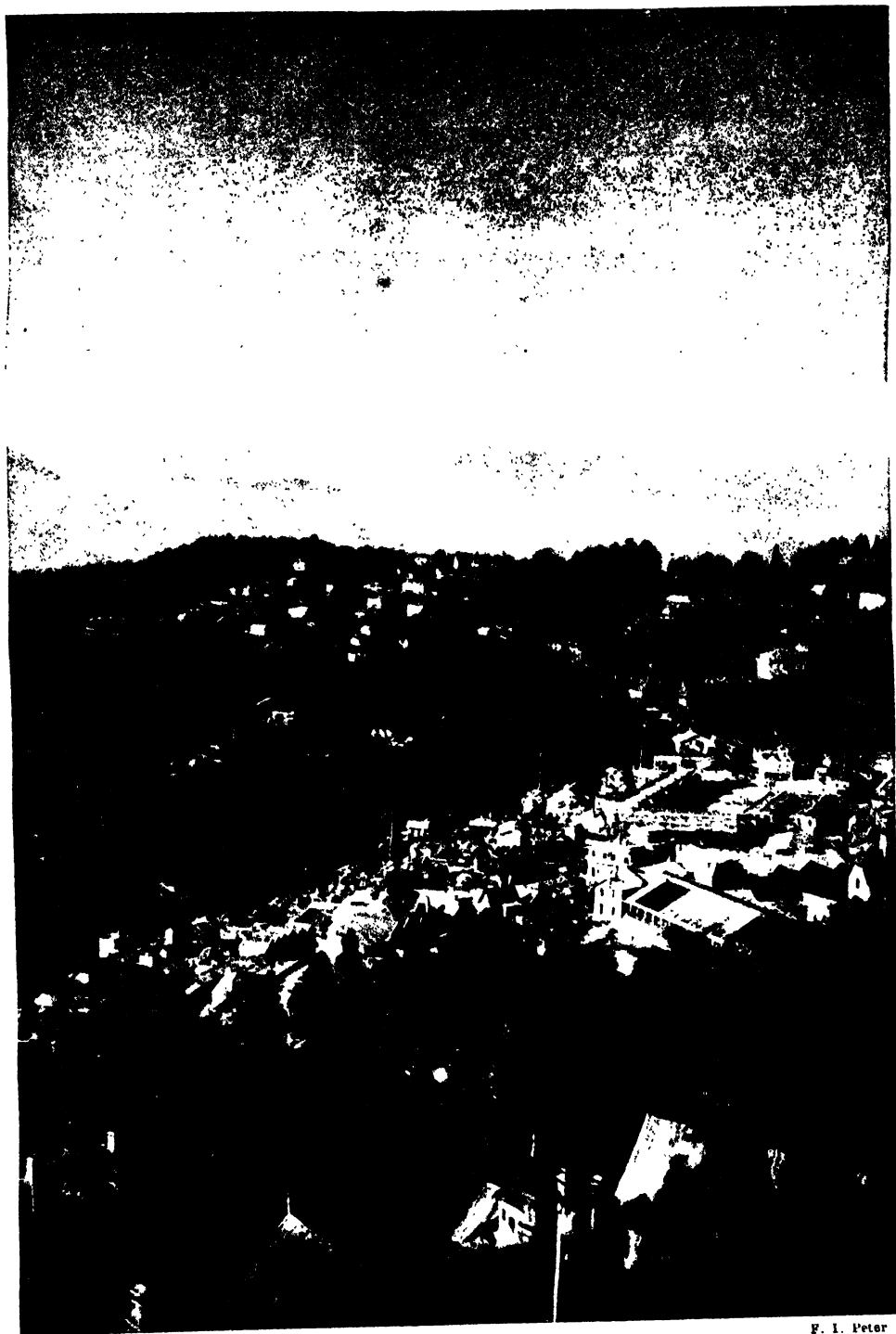
It has been mined very wastefully in the past, but is now under Government control. Mica exports in the year 1920 were valued at just over a million sterling. Gold-bearing sands exist and yield poor pay to a few hard-working Indians who wash them, and small shafts have been sunk in Singhbhum giving 1 to 6 dwts. of gold per ton. Alluvial tin has been discovered in Hazaribagh; saltpetre is obtained in large quantities at Patna and Monghyr, the latter also yielding slate; limestone, laterite and granite are distributed widely; soapstone occurs at Manbhum.

Industry and European Competition

The days have gone when the muslins of Dacca and Santipur were famed throughout Europe and from Dacca alone the yearly exports were over a million sterling. The introduction of machinery in Europe killed the export trade and seriously crippled the home weaving industry, but Serampur and Dacca are still weaving centres while cotton goods and cheap muslins are made at Dinajpur. The silkworm is reared and silk weaving is carried on, but the woven silk is of a rough quality and suffers from foreign competition, and the industry is declining.

Other wholly Indian industries are those of the filigree gold and silver work of Cuttack and Dacca, the silver work of Kharagpur, which is very fine, the "chikan" fancy work of Calcutta, the ironwork of Monghyr (where shot-guns are manufactured), mat-making of south Midnapur, and stone-carving of Gaya.

The premier industry in Bengal, after agriculture, is the manufacture of



F. I. Peter

DARJEELING AND "THE SNOWS" SURVEYED FROM THE JELAPAHAR ROAD
From the excessive heat of the summer sun in India's plains and cities the European hastens to the "hills," a humble name for altitudes ranging between 5,000 and 8,000 feet above sea-level. Darjeeling, in the Bengal presidency, originally purchased as a sanatorium from the Raja of Sikkim in 1835, is magnificently located beneath the distant heights of the snowy, cloud-wrapped Himalayan range

jute. Since its inception in the year 1855 (the first power-loom was introduced in 1859 with an output of eight tons per day) the progress has been astonishing. During the year 1919-20 there were 72 mills at work which produced a daily output of 3,000 tons. The mills are situated mostly at some little distance outside Calcutta near the banks of the Hooghli. They are modern, up-to-date buildings with effective sanitation and electric lighting, and the condition of the workers all Indian in the lower grades with both Indian and European supervision is satisfactory.

Tea manufacture, the total production of which in 1920 was 72,081,081 lb., gives employment to nearly 1,000,000 persons; sugar, soap and paper manufactures are carried on—three paper mills produced 25,070 tons of paper in 1919-20; while twelve cotton mills employ just under 12,000 persons. Tobacco is manufactured and one of the largest cigarette factories in the world has been erected at Monghyr, which has done much to stimulate tobacco growing in the surrounding country.

The manufacture of indigo in Bihar, revived by the Great War, is now again



F. I. Peters

THE MALL IN A FAMOUS HILL SANATORIUM OF BENGAL

As the summer headquarters of the governor of Bengal and the health-station of the presidency, Darjeeling enjoys a great deal of gaiety in the season. The streets of this beautiful hill-retreat—for Darjeeling is reckoned by many to possess "the noblest scenery in the world"—are mostly steep and winding, and hammocks and chair-litters are still in considerable vogue.

declining; also that of opium, owing to the Government of India prohibiting export to China and restricting severely its export elsewhere.

Communications are good. Although the alluvial soil makes it difficult to construct hard, metalled roads, this has been done, and there are now useful trunk roads in all directions. Principal of these is the Grand Trunk Road which runs eastwards from Calcutta through the Burdwan division of Bengal, across Chota Nagpur and the Patna division of Bihar, to the United Provinces, and is 396 miles in length. Almost all the principal towns are connected by rail.

The main line of the East Indian Railway runs northwards from Calcutta till it reaches the Ganges, then follows that river, uniting many riverside towns, and connects with the United Provinces a little west of Buxar; it has also important loop lines which shorten the route to Calcutta.

Railways into the Himalayas

The Eastern Bengal Railway runs from Calcutta north-eastwards to the Brahmaputra and a branch goes almost due north to the foot of the Himalayas, where it joins a 24-inch gauge mountain railway to Darjeeling. The Bengal and North-Western Railway runs east and west on the northern side of the Ganges, serving the northern half of the province, and the Bengal and Nagpur Railway joins Bengal with the Central Provinces and with Madras while providing the shortest route between Calcutta and Bombay and linking Calcutta with Madras. The Assam-Bengal Railway runs from Chittagong to Assam.

There are regular services of passenger steamers on the Brahmaputra, the Ganges and the Meghna, and on the Hooghly and the Padma, and there is a service from Calcutta to Chittagong, touching at coastal ports en route, and from Calcutta to the Orissa ports. As regards overseas communications, Bengal is exceedingly well served, being linked via Calcutta with the chief Indian ports, those of Burma, Ceylon,

the Straits Settlements and the Federated Malay States, and also with China, Japan and the leading ports of the world. A good home and foreign telegraphic service exists, also a telephone and wireless service, but there is no regular passenger air service.

Rivers More Important than Roads

Goods transport is by rail and water, the roads serving as "feeders," and in addition to many river systems (over 100,000 Indian cargo boats ply continually on the Ganges alone), there are the Calcutta and Eastern Canals which carry a good deal of the produce of eastern Bengal and the Brahmaputra valley to Calcutta, and the Midnapur and Orissa Canals. The Eastern Bengal Railway brings large quantities of jute and tea to Calcutta, the East Indian deals with much of the coal and other minerals, of which the Bengal-Nagpur also has a share, while the Assam-Bengal Railway brings its complement of jute to Chittagong.

The home trade of Bengal and Bihar is connected largely with the import and export trade of the province, most of the articles sent into Calcutta from the various districts being either for export or to be used in the manufacture of exports; exceptions would be articles purely for Indian consumption.

Entrepôts of Foreign Trade

Foreign trade is by far the most important, but it must be borne in mind that Calcutta is the port for the United Provinces and part of the Central Provinces, while both Chittagong and Calcutta import for Assam. Yet again, Calcutta imports for the Himalayan States, Nepal, Sikkim and Bhutan, and it is not possible to estimate strictly what proportion she keeps for herself.

Two-thirds of the imports come from the United Kingdom and consist mainly of cotton and woollen goods, metals, liquors, sugar, salt, oils, glass, machinery and mill work; for the year 1920-21 they amounted in value to £54,994,000. The export trade, which also is partly



F. I. Peters

BENGALI LABOURERS AT WORK IN THE BRICK-FIELDS

Brick-making is a common industry of Bengal and around the town of Dinajpur in the east are several extensive brick fields. The region surrounding it, which bears the same name as the town, is rich and arable and the staple product is rice. Though crossed by a veritable network of channels and water courses the district has no great navigable rivers.

that of the United Provinces, Assam and the Central Provinces, is concerned mainly with jute (raw and manufactured), hides and skins, pulses and flour, oil-seeds and opium. The value in the financial year 1919-20 was £91,990,000, jute alone comprising 55 per cent. of this total.

The villages vary considerably in different parts. In Bihar they are packed closely together; elsewhere there is a single village site around which the houses are collected, but each house stands in its patch of homestead land. In eastern Bengal, however, the ground is often so swampy that there is no trace of a central village site, and the houses are to be found in straggling rows, lining the high banks of rivers, or else in small clusters on mounds from ten to twelve feet high, laboriously thrown up during the dry months when the water disappears. A general type of village house is a one-storeyed dwelling with mud walls thatched or sometimes tiled roof, an average of two rooms and

a courtyard, surrounded by wooden or bamboo posts and interlaced walls or sides of split bamboo; the whole often encircled with a bamboo fence, and sometimes by a moat and a thorny cane or cactus hedge a very necessary protection against the predatory animals of the district.

Of the cities and towns in Bengal, Calcutta forms the subject of a separate chapter. Chittagong is the second port in the province. It is well situated, a few miles up a navigable river, and has a good harbour. It was an important place of trade in the sixteenth century, then known to the Portuguese merchants as Porto Grando. Dacca, a great Mahomedan capital and the seat of a luxurious court, once famed for its muslins, is now the centre of the jute industry for eastern Bengal. Malda has near it the ruins of Gaur, once Bengal's capital under the Afghan kings; and Murshidabad, the last capital of the province, remained so for some time after the British conquest. It numbers less than 50,000 persons now.

and though it has a few industries, it is in a state of decline—a city of the past.

Kasimbazar, now in a state of decay, but once noted for its silk manufactures, was so prosperous that we find Job Charnock, the founder of Calcutta, living there as Chief Agent before Calcutta existed. Hooghli boasted an English factory in pre-Calcutta days. Chinsura, close by, was once a Dutch trading settlement, and Serampur was ceded to the British Government by

of the government of Bihar and Orissa. In the days before railways it was one of the greatest trading places on the Ganges, and it is held to be the same as Pataliputra, the capital of the ancient Hindu kingdom of Magadha, which once ruled all northern India. The old civil station is known as Bank'pore and the military station as Dinapore—the newly-erected government buildings lie midway between these places. Another city Gaya, is a far-famed place



COAL-MINES IN THE RANIGANJ DISTRICT, THE "BLACK COUNTRY" OF BENGAL

One of the rivers flowing into the Ganges delta, the Damuda, in its upper reaches traverses the Raniganj coal-field, the most important in all India. Its total area is over 500 square miles and the whole district, covered as it is with scores of coal-mines, potteries, factories and paper-mills, suggests rather the "Black Country" of England than the rich warm lands of Eastern Bengal

Denmark. Chandernagore, not far distant, is still held by the French—a quiet little suburban town of 25,000 people—with a few patches of territory on the east and one on the west coast, the sole relic of France's bid for an Indian Empire. The hill and health resort of Bengal is Darjeeling—Queen of the Snows—which lies in a beautiful situation 7,300 feet above sea-level, commanding magnificent views of the highest snow-peaks of the great mountains of the Himalaya range.

In Bihar the city of Patna is the largest centre, recently made the seat

of pilgrimage for all followers of the great Gautama Buddha, for there—under a bo-tree Buddha is said to have attained all knowledge, and there is consequently a great number of interesting Buddhistic remains in the neighbourhood. Gaya is also a great Hindu place of pilgrimage, possessing a rock supposed to bear the foot-print of Vishnu, on which a temple stands. At Bihar, another reputed capital of Magadha, are the remains of the great "vihara," or college of Buddhist learning, which gives to the town and the province their name.

Monghyr with its old fortress is one of the most picturesque places in Bihar. Mir Kasim Ali selected it in 1763 for his capital, built a great arsenal and therefrom made war upon the English, disastrously to himself. Chapra, at the junction of the Gogra and the Ganges, once flourished exceedingly, possessing French, Dutch, English and Portuguese factories. Both rivers changed their courses, severe visitations of plague followed, and Chapra was soon in a state of rapid decline. Bhagalpur, which ranks as a city, was once the seat of a military governorship in the time of the great Akbar, and it is noteworthy that here the Ganges has a width of seven miles.

Orissa and Chota Nagpur have few towns, much of their territory being overrun with jungles and inhabited by aboriginals. Cuttack is the largest town in Orissa, on the Mahanadi, not far from the coast; and Puri, a port, is something like the English Margate—a place of lodging-houses to accommodate the enormous number of pilgrims visiting the shrine of Juggernaut, the “Lord of the World.” The great yearly festival occurs in June, when the image of Juggernaut, in its massive triumphal car, is dragged through the streets with ropes

by frenzied multitudes, accompanied by the clashing of cymbals and the beating of drums, to its country residence. Bhubaneswar is famed for its large number of temples encircling a sacred lake, and Sambalpur is situated picturesquely on the Mahanadi and commands a beautiful view of the river. The only important towns in Chota Nagpur are Ranchi and Hazaribagh. Both are 2,000 feet above sea-level, and Hazaribagh is placed very prettily in the midst of a group of conical, well-wooded hills.

Cooch Behar is a well governed and flourishing little state situated in the north-eastern corner of Bengal, not far from the Assam border; it lies very low; in the rainy season is almost a swamp, has an unhealthy climate and is subject to severe cyclonic storms. It grows large quantities of jute, tobacco and rice, and its chief town, Cooch Behar, is on a branch of the Eastern Bengal Railway. Hill Tippera lies east of the Dacca district of Bengal and is wedged in between Chittagong and the Sylhet district of Assam. It is a hilly, jungle-clad state. The staple crop is rice, but jute, tobacco, sugar-cane, mustard, chillies and onions are grown.

BENGAL, BIHAR & ORISSA: GEOGRAPHICAL SUMMARY

Natural Divisions. In the main the eastern portion of the flat Indo-Gangetic Plain, with hilly lands north to the Himalayas, east to the Burmese mountainous frontier and south-west to the heights of the Deccan.

Rivers. Ganges (see also India Central); Brahmaputra (see Assam); Mahanadi (see India Central). The great delta and the Sundarbans.

Climate. Monsoon, cool dry winters; hot dry early summer; late summer hot, humid, with heavy rains from the Bay of Bengal.

Vegetation. Jungle forest on the swampy rainy lowlands, the Terai and the Sundarbans. Forest on the uplands. The plains treeless, with annual or perennial grasses, except where cultivated.

Products. Agricultural. For export, tea, jute and some rice. For the home trade and local consumption, native food grains, tobacco.

Mineral. Coal, three-quarters of the Indian yield, which is 1 per cent. of the world's total; chiefly sent to Calcutta by rail and river for the railways and for export to Ceylon, Singapore, and to the other chief ports of India. Mica, more than half the Indian yield, which exceeds that of the rest of the world. The beginnings of an iron industry.

Communications. Road, railway, river, canal, coastal and oversea steamer.

Outlook. A third of the people of India are concentrated chiefly in a square of land of which the delta coast is the southern edge, 250 miles in length. They produce minerals with slowly increasing skill, and most of the world's jute, but they are losing their markets for opium and indigo; otherwise, they are a self-contained people, parcelled out on plots of land, and dependent upon the rains for their existence and a measure of comfort. Education alone will bring progress.

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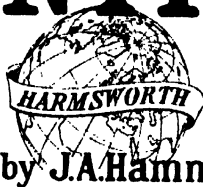
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I HOPE that no one who has been purchasing the Parts of COUNTRIES OF THE WORLD will neglect to avail themselves of the splendid binding offer which I discussed in these notes last fortnight. After all, enthralling though COUNTRIES OF THE WORLD may be to read fortnight, by fortnight like a magazine, it is essentially a work to preserve, and the fortnightly wrappers are quite inadequate for the purpose. These latter, of course, we make as attractive as possible, but they are only intended to protect the pages until the time comes to encase them in more worthy covers. The conditions and prices will still be found set forth on page iii, and you are advised to read them carefully before making up your parcel. The observing of such small details may seem irksome, but a moment's reflection will show that it is the only way of ensuring safe delivery and prompt return.

Special Cover for this Part

A BRIEF word of explanation to save my readers from being puzzled by the cover design of this Part. For the first Part of each volume a subject is chosen to serve eventually as a frontispiece; it is selected not so much to illustrate some specific place as to symbolise in a general way the Romance of Travel—as, for example, the cover of Part I. So, lest anyone search feverishly through this Part and be left in doubt whether the mountain shown overleaf is in Berlin, Bohemia, Bolivia or Bombay, I may as well say that it is in fact part of the Rockies in the neighbourhood of Banff, Canada, and will appear quite appropriate in its final position, since Canada will naturally be treated during the course of Vol. II.

SUCH periodic departure from custom in no way reflects upon the quality of the colour-plates to be found within. Indeed, as I look at the coloured photographs of Bombay and Gujarat, of which proofs are at the moment in front of me, I cannot help thinking that in some ways they surpass even those illustrating the Barbary States in Part 6. Of course, India's magnificent religious architecture affords splendid scope for pictorial treatment, and in this respect those of my readers who subscribed to "Wonders of the Past" will welcome an extension of the subject that has already given them so much pleasure.

Contents of Part 9

THE chapter on Bombay City, too, with which the following Part begins, should have a similar appeal, for it gives an opportunity of illustrating the wonderful Elephanta cave temples. Mr. Marmaduke Pickthall is the author of the chapter in question, and I think that his contribution will come as a revelation to many; for few of us, I feel, who are not Anglo-Indians realize quite as keenly as we should the enormous size and the importance of such cities as Bombay or Calcutta. The other chapters in Part 9 are on Borneo, by Mr. Owen Rutter; Bosnia and Herzegovina, by Mr. H. Gregorius Brown; and Boston, by Mr. W. L. George—a thoroughly representative selection from the world's surface! Bosnia and Herzegovina with their superb scenery provide both the colour section and one of the photogravure sections; as a contrast the other photogravure section depicts the tropic verdure of Borneo.

BERLIN

Germany's Clean & Spacious Capital

by E. A. Brayley Hodgetts

Author of "The House of Hohenzollern"

BERLIN, the capital of modern Germany, stands on a wide sandy plain exposed to every wind that blows and to the scorching rays of the blazing summer sun. Cold and bleak as it is in the winter, it becomes almost unbearable in the hot weather, because the sand absorbs the heat of the day and gives it out at night, very much on the principle of the old tile stove.

Yet before the Great War Berlin was a very pleasant place to live in, for it was beautifully clean and its simple, methodical population, descended from those indomitable Brandenburgers who succeeded in planting trees and growing produce in that sandy soil, knew how to make themselves comfortable. In the early sixties, when the present writer first knew it, it was the capital of Prussia only and was a drab, dirty city, the streets paved with cobble stones and unsavoury gutters carrying the dirty refuse water under the noses of the passers-by, with dingy, ugly houses and a general atmosphere of grinding poverty; yet even then, Berlin was in a certain gross and rough way a comfortable place to live in. But just before the Great War it was the most luxurious city in Central and Eastern Europe, though to-day it has declined greatly, for it has suffered from the revolution of 1918, the Spartacist rising of 1919 and the general decay which has fallen on Germany like a blight in consequence mainly of her disastrous financial policy.

Level City with a Single Hill

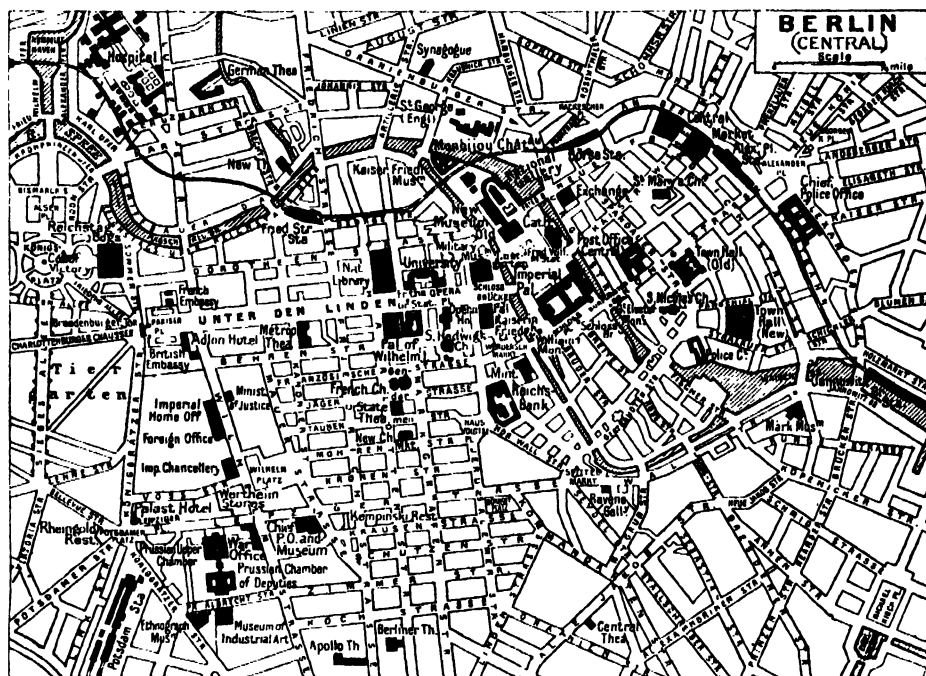
Berlin lies flat, the loftiest point in that even plain being the Kreuzberg, south of the Friedrichstrasse where it ceases at the Belle-Allianceplatz. This is a sand-hill rising 210 feet above sea-level

and about 100 feet above the city. It is surmounted by a national monument of the War of Liberation (1813), consisting of an iron obelisk designed by Schinkel, surrounded by statues and reliefs, some of which have considerable artistic merit, executed by the leading sculptors of the period, e.g., Rauch, Dieck and Wichmann. It was inaugurated eight years after that date.

Many Vagaries of the Spree

The miserable river on which the city lies is the Spree. It is so ashamed of itself—and rightly—that it slouches through Berlin along mean back streets, but it illustrates the fortunes of the land whose capital it waters by its curious and eccentric behaviour. Before reaching the capital it disports itself in a prodigal though quite picturesque manner among woods and forests, and even breaks out with wild luxuriance into charming lakes, such as the Tegel-See and the Müggel-See where the rowing clubs are; but as soon as it has left Berlin in its western course and merged with the more generous waters of the Havel, it bursts into a wild riot and spreads itself in such ample inland seas that it would seem to threaten to inundate the whole countryside. Here is Wann-See, on which is ominously situated Potsdam, the Windsor and the Versailles of Prussia. In Berlin, however, the artificial Landwehr Canal is, significantly, a finer piece of water than its natural rival.

Why was Berlin, with its sandy soil, its insignificant river, destined to become the capital first of Brandenburg, then of Prussia, and at last of Germany? The answer is simple: it was owing to its convenient, central geographical



WIDE BOULEVARDS OF GERMANY'S STATELY CAPITAL

position. Lying about half-way between Hamburg and Breslau, as well as half-way between Stettin and Leipzig, and between Memel and Mulhouse in Alsace, it will be seen to dominate the German Empire. Recently water communication has been established with both Hamburg and Stettin. Its origins are obscure, for it was already a town of some importance when we first come across it in history in the early part of the thirteenth century. Probably it started as a fishing village, situated as it is on the narrow channels of the Spree and within the vicinity of so many lakes. This seems all the more probable as it was at first composed of two places, one on each side of the river.

The beautification of modern Berlin did not properly begin before the advent of Frederick William IV., that cultured idealist with his devoted love for Greek and Italian architecture, who eventually went mad and was succeeded by his brother, William I. In the latter's reign the Franco-Prussian War was won, and the capital of Prussia became the

capital of the German Empire as well, and was finally modernised, until from a small "Residenzstadt," Germans could proudly say, "Berlin ist Weltstadt geworden" (Berlin has become a world-city). It is interesting to reflect that Berlin owes her excellent asphalt paving and her irreproachable water supply to British enterprise.

The following figures will give some idea of the rapid growth of the town. Under the Great Elector its population (1688) was barely 20,000; a hundred years later it was 145,000; after the battle of Waterloo it was close on 200,000; in 1849, 431,566; in 1871, 826,341; in 1880, 1,122,330; in 1890, over 1,500,000, and in 1910 2,000,000. Before the Great War it was nearly 4,000,000 (with Greater Berlin), but to-day it is back at 2,000,000, of whom at least 200,000 are estimated to be Russian refugees. These refugees are certainly very much in evidence, being nearly all of the educated class, and the Russian language is heard in the streets as commonly as the German vernacular.

The traveller approaching Berlin from the west enters the city by way of the Ringbahn, the circular urban railway at the numerous stations of which his train will not stop, excepting only those of the Zoological Garden and the Friedrichstrasse, which is in the centre and within easy distance of the principal hotels. The Friedrichstrasse is at once the Oxford Street and Strand of Berlin, only instead of running east and west it runs north and south, and in its course experiences many vicissitudes. It starts in a poor quarter of the town in the north, not in the slums exactly, because, strictly speaking, there are no slums in Berlin; they are "polizeilich verboten" (prohibited by the police); and it terminates, as has been already stated, in the Belle-Allianceplatz in a neighbourhood devoted chiefly to workmen's dwellings. But in the middle it

bisects the famous avenue known as "Unter den Linden" (under the linden trees), in which are the former palaces of the Hohenzollern family.

Curiously enough, while the Friedrichstrasse is a fine broad street everywhere else, it is almost mean and narrow where it crosses Unter den Linden. This paradoxical condition is due to the fact that whereas the street has been widened along its entire length, it was not found practicable to do this here. But the crossing of the Friedrichstrasse and Unter den Linden is one of the most frequented spots in all Berlin, the Potsdamerplatz alone excepted.

As soon as the Friedrichstrasse has passed Unter den Linden in its southward progress, it widens out again and becomes the handsomest and busiest street of the capital, with restaurants, cafés and very fine shops on either side



Donald McLean

BRANDENBURG GATE AND THE PARISERPLATZ

Built to imitate the ceremonial Propylaea of the Acropolis at Athens (see page 358) the Brandenburg Gate was erected in 1790 as an entrance to the Tiergarten, Berlin's magnificent pleasure ground. It occupies a commanding position at the western end of Unter den Linden in the Pariserplatz. Surmounting it is the historic quadriga, carried off by the French in 1807 but restored in 1814



LOOKING WEST ALONG BERLIN'S MOST FAMOUS PROMENADE

E. O. Hoppé

No thoroughfare exists that can make so strong a claim to world renown as Unter den Linden, Berlin's magnificent boulevard under the limes and chestnuts. On either side of it are handsome palaces and shops, spacious hotels and restaurants, and it is regarded by the people of the city in the same light as the Champs Elysees by the Parisians. Here we look westwards towards the Tiergarten.



BUSY THOROUGHFARE LINKING BERLIN WITH ITS SUBURBS

E. O. Hoppé

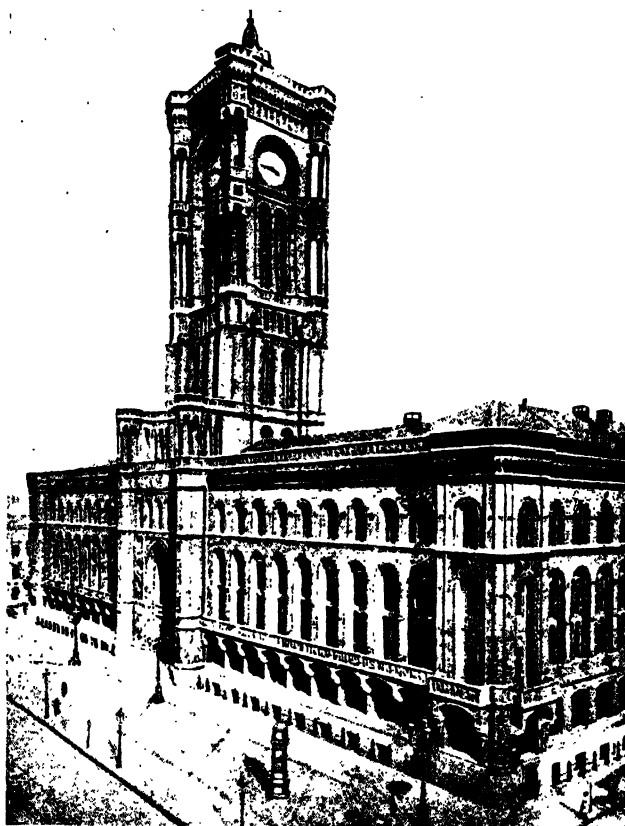
Hauptstrasse, emerging from the south-western suburbs of Schöneberg and Wilhelmshof—joined to the city as they are by unbroken lines of streets—becomes known, after it passes Kaiser-Wilhelmplatz, as Potsdamerstrasse. From this point it runs straight to the Potsdamerplatz, near which our view was taken. Here it debouches on many ways leading to the city proper.

of it. The streets that traverse it at regular intervals lead eastwards to the famous Gendarmenmarkt, with its twin churches, one of them French, and the State Theatre, and westwards to the business quarter, and the Wilhelmstrasse, where the Foreign Office and the British Embassy are. This Wilhelmstrasse runs almost parallel with it from Unter den Linden and joins it at the Belle-Allianceplatz. When the Friedrichstrasse reaches the Leipzigerstrasse its glory gradually departs from it.

The Leipzigerstrasse is composed of splendid shops, all quite modern and housed in detestable though extremely solid and imposing new-style buildings. Here, close to the Potsdamerplatz, are the celebrated Wertheim Stores at the corner of the Leipzigerplatz which are owned by a syndicate

of princes, a gloomy substantial stone building looking like a mausoleum and a prison rolled into one, with just a suspicion of a lunatic asylum thrown in.

The same syndicate owns the sumptuous Palast Hotel, in the Leipzigerplatz, which leads from the opposite side of the Potsdamerplatz into the Tiergarten, near where is also that monument of extravagance and bad taste, the Rheingold Restaurant. This may be described as a Carlton or a Trocadero for the million; amid its dazzling splendour the German small bourgeois can in his thousands get an indifferent, cheap, but pretentious meal and give himself the comforting illusion that he is living in the lap of luxury for a brief hour or so. On the south side of the Leipzigerstrasse is



TOWER OF BERLIN'S IMPOSING RATHAUS

Unlike many a German town, where the Rathaus is a glorious relic of the Middle Ages, the town-hall of Berlin at the corner of Königstrasse and Spandauerstrasse is a modern edifice exhibiting a blend of Renaissance and Romanesque

the Prussian Upper Chamber or House of Lords, the Herrenhaus, and the Prussian Chamber of Deputies or House of Commons, and here also is the War Office, while at the corner of the Mauerstrasse, on the other side, is the very fine Post Office, a rich Italian Renaissance building. The famous Kempinski Restaurant, another luxurious house of entertainment for the million, is on the same side as the War Office. The Leipzigerstrasse, as indeed are all the main streets of Berlin, is alive with electric trams, the rails of which are so laid as not to project; but there is a constant jangling of bells which deafens the ears.

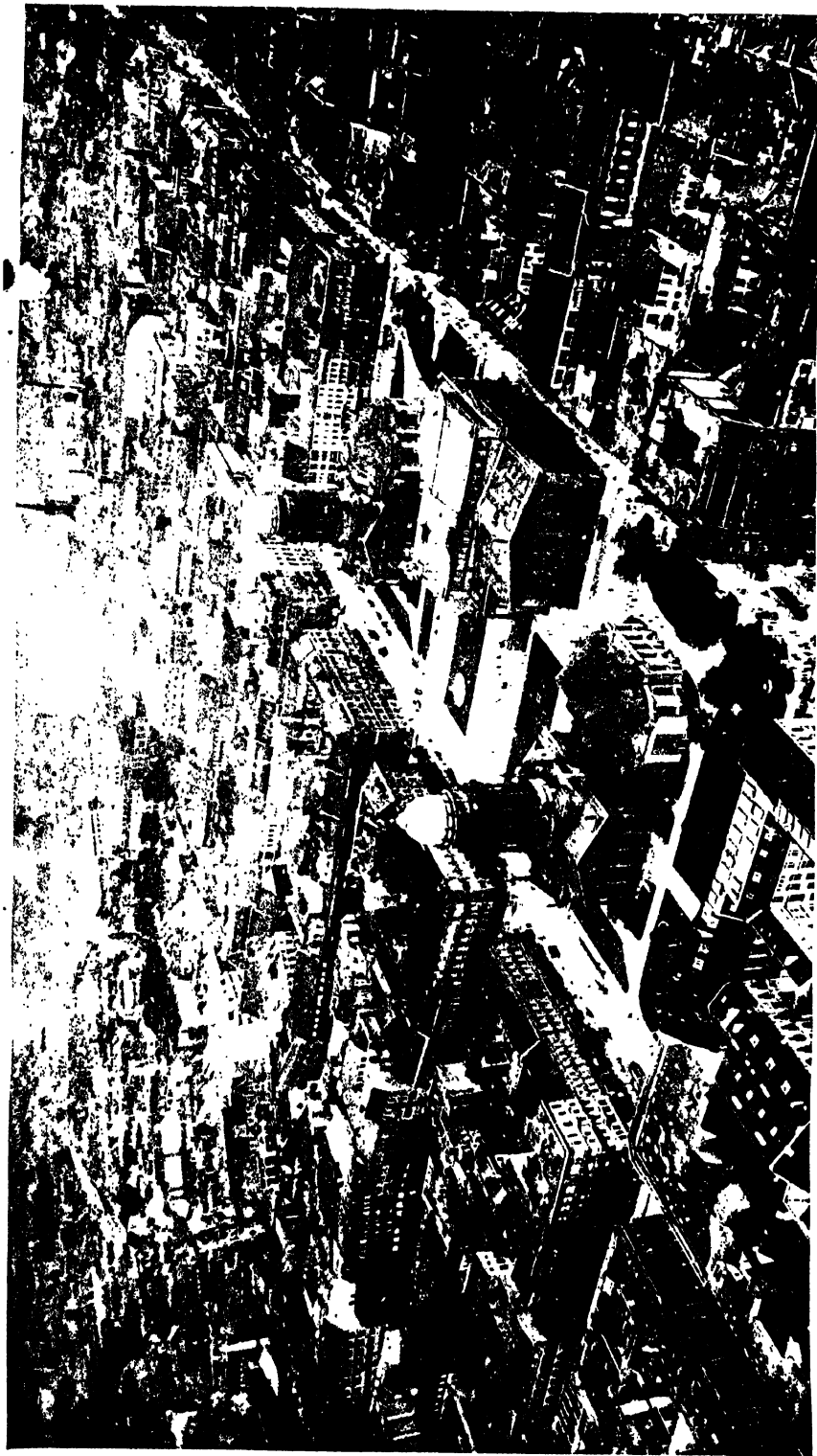
Proceeding eastwards along the Leipzigerstrasse and crossing the Friedrichstrasse, we come to the



Deutscher Aero Lloyd A. G.

GERMANY'S CAPITAL CITY FROM THE AIR, SHOWING SOME OF THE PRINCIPAL BUILDINGS AND MONUMENTS

Following the east prolongation of the broad thoroughfare known as Unter den Linden, one passes on the left the imposing square structure of the Zeughaus, or arsenal, and comes to the Schlossbrücke, or Palace Bridge, spanning the Kupfergraben, an embellished with eight marble groups depicting various scenes in a warrior's life. On the farther side is seen the Lustgarten lying to the south of the Old Museum and beyond, towering in majestic beauty over the city, is the Dom, or cathedral. To the right of the Lustgarten stands the former Royal Palace, portions of which have been converted into a Museum of Industrial Art.



Aerofoto.org

AEROPLANE VIEW OF A PORTION OF ONE OF THE MOST REGULARLY CONSTRUCTED QUARTERS IN BERLIN

To the east of the Friedrichs-strasse, south of the Linden and in close proximity to the Opera House, is the Gendarmenmarkt, a fine square, fringed by many lofty modern buildings, inserted among symmetrically arranged streets crossing each other at right angles. The Gendarmenmarkt contains the Schauspielhaus, or Royal Theatre, the French Church and the New Church—three large and striking structures which form a very effective architectural group. The Schauspielhaus was erected in 1818-21 on the site of the original building destroyed by fire in 1817; both the French and the New Churches were built in the early eighteenth century.



Deutscher Aero Lloyd A. G.

ONE OF THE BUSIEST CENTRES IN THE CITY OF BERLIN

BUSTLING ACTIVITY ON THE POTSDAMERPLATZ. From the Potsdamerplatz a series of streets branches off in various directions, producing when viewed, as in this photograph, from the air a singularly impressive asteroid appearance. In the foreground we catch a glimpse of the Leipzigerplatz, cut in two by an extremity of the Leipzigerstrasse, an important artery of traffic. The other two broad streets converging on the square directly opposite are the Potsdamerstrasse and the Bellevuestrasse, seen from left to right. From early morning until late evening this famous square is congested by constant streams of traffic moving towards all quarters of the city.

Jerusalemstrasse, the Dönhoffplatz and the Spittelmarkt; these are old quarters of the town which have been entirely rebuilt and are full of fine structures. At the northern end of this street is the handsome S. Hedwig's church, the parish church, and close by is the Opera House, which has been recently reconstructed and will seat 2,500 people. Originally it was a small but very graceful rococo building.

The Opera House faces the end of Unter den Linden and the famous equestrian statue of Frederick the Great, round the pedestal of which are bas-relief statues of that king's principal generals. Among the other buildings in the immediate vicinity, but a little more to the south, are the Reichsbank, the Mint and the National Library; the University is opposite, and so is the

Zenhaus, or military museum. To the right, looking east, is the Schlossbrücke (Palace Bridge) with its celebrated statues, leading to the forbidding Imperial Palace (Schloss), a formidable building which seems to frown down upon the populace and the surrounding scene with the cold haughty pride typical of the Prussian middle ages.

This castle has a respectable antiquity, the original building having been erected on the Spree in 1443; a century later, in 1538, a wing was added facing the Schlossplatz; the great Elector made further additions; and Frederick I. employed Schlüter and later Eosander von Goethe to reconstruct it, but his gigantic scheme was never fully carried out. The Schloss façade thus remains a stern example of the early German



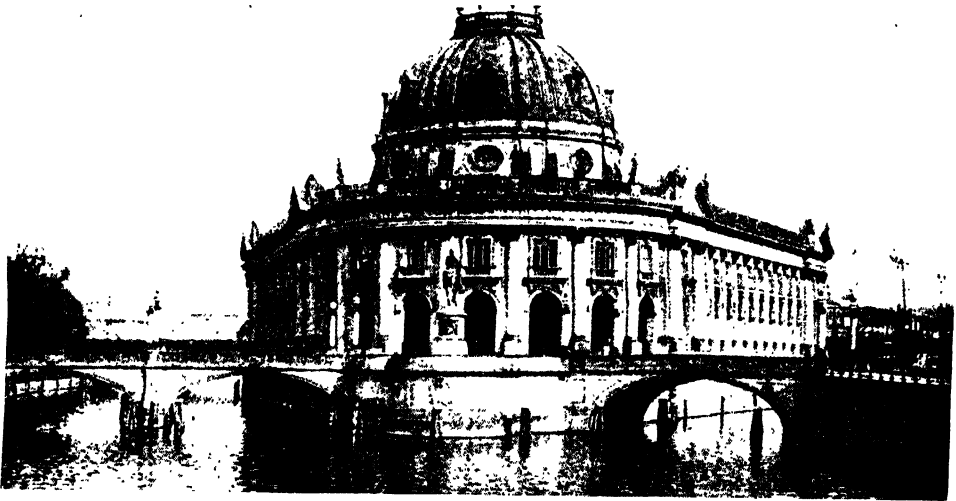
Donald McLeish

CATHEDRAL FROM THE LUSTGARTEN

Although truly massive in size, and although in the same Italian Renaissance style, the cathedral at Berlin lacks the harmony of proportions revealed by the similar edifices in Rome and London; while the excess of statuary gives an appearance of restlessness.

Renaissance style of architecture. The penurious Hohenzollerns of the last two centuries inhabited it but little until the accession of William II., who found its imperious arrogance quite to his taste. There is a legend, very much discredited, that whenever a member of the house of Hohenzollern is about to die the ghost of a White Lady appears in the castle. Some thirty years ago an American journalist was actually expelled from Berlin for reporting a rumour that this ghost had been manifesting itself.

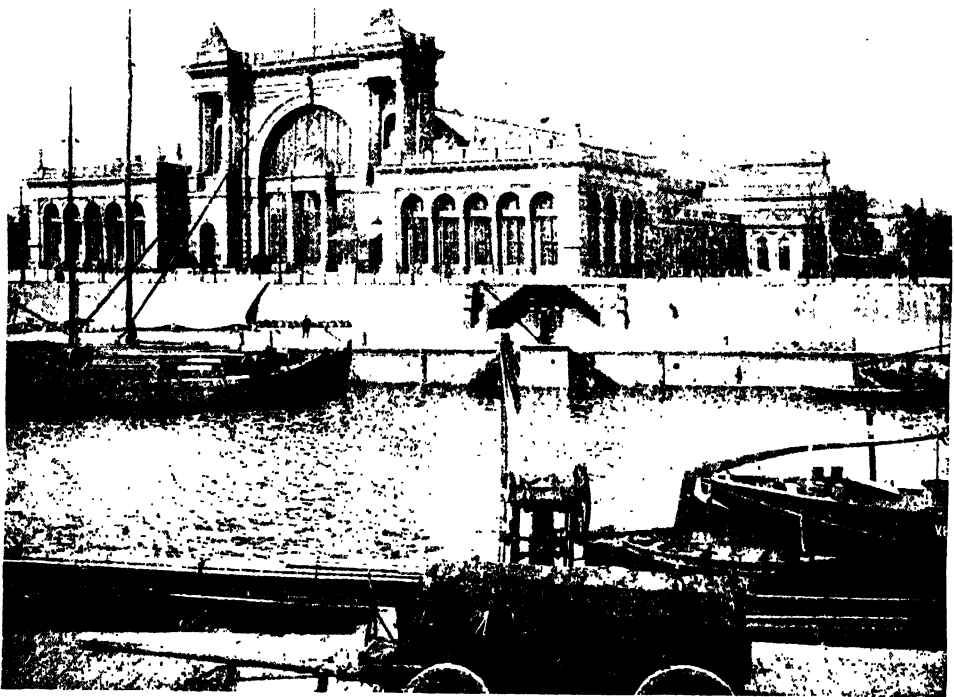
South of the Schloss is the Schlossbrunnen (Fountain), the fountain erected by the sculptor Begas, the favourite of William II., and supposed to have been actually designed by the monarch himself. It is composed of marble



Donald McLeish

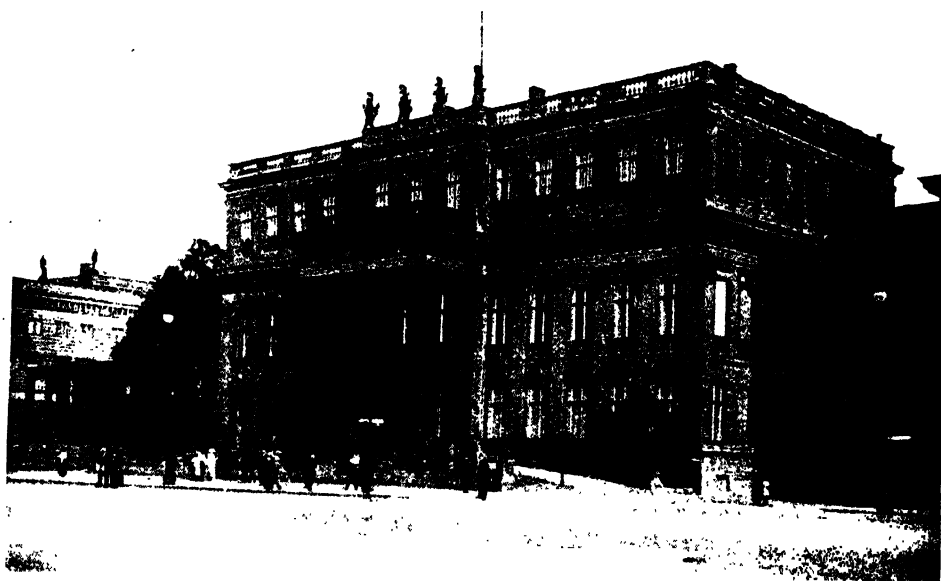
STATELY PALACE OF ART ON THE MUSEUM ISLAND OF BERLIN

Italian baroque in style and crowned by a well proportioned dome, the Kaiser Friedrich Museum, built in 1898-1904, presents an imposing appearance at the north-west point of the Museum Island, approached by bridges across the Spree from Montbijou-strasse on the left and across the Kupfergraben on the right. Before the semicircular front is an equestrian statue of Emperor Frederick III.



LEHRTE STATION FOR HAMBURG AND BREMEN FROM BERLIN

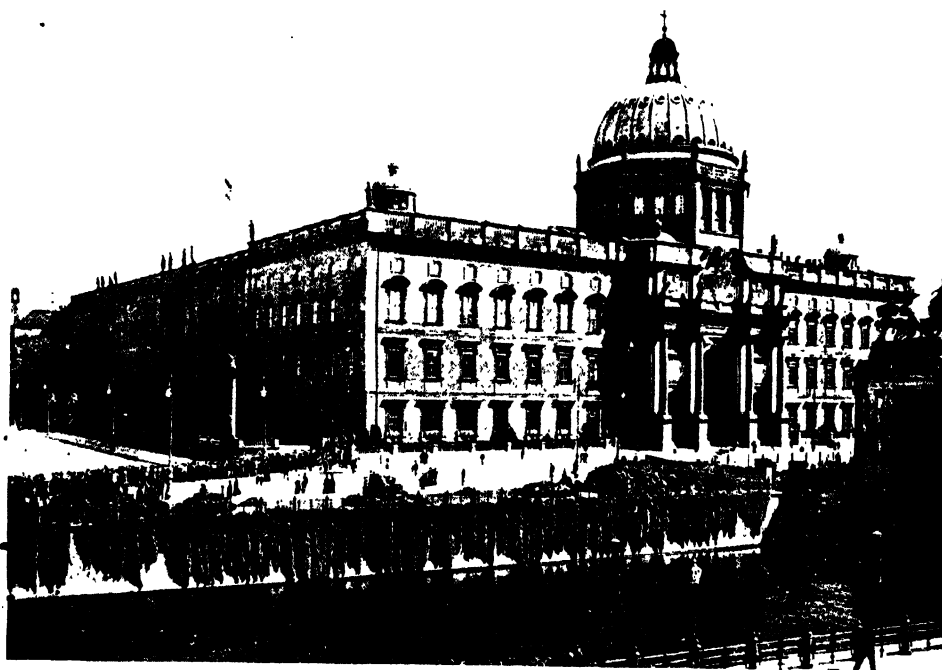
One of the five terminal main-line railway stations of Berlin, exclusive of the Stadtbahn or the City Railway, Lehrte Station is a good example of modern German architecture applied to a specific purpose. Its immense hall stands on the right bank of the Spree close by the Moltke bridge and is connected with a station of the Stadtbahn in the Invalidenstrasse.



Donat McLe

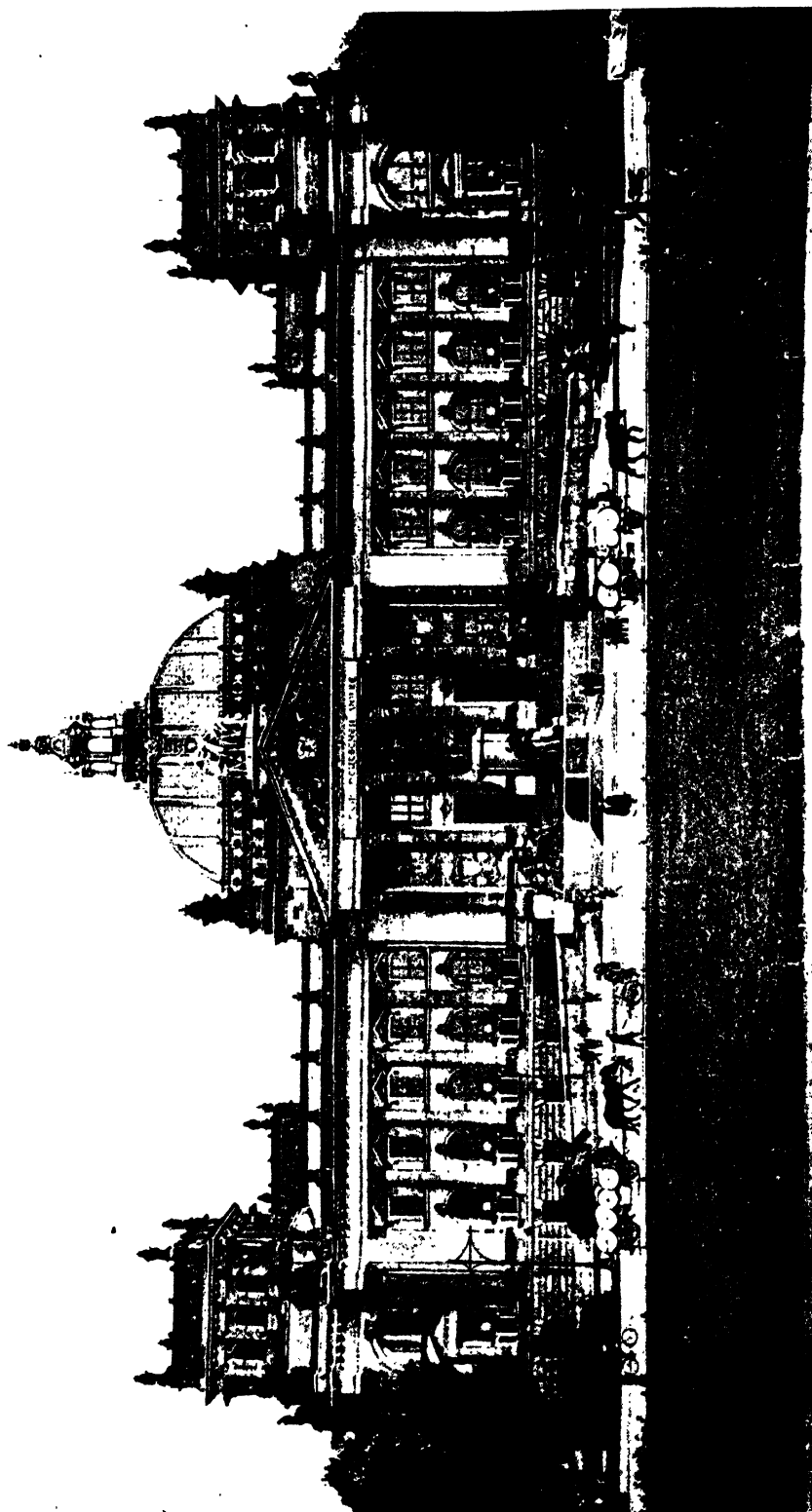
ERSTWHILE ROYAL RESIDENCE, NOW AN ART GALLERY

This imposing pile, the residence of many a royal prince of Germany, was built in 1732 for Frederick the Great when Crown Prince and stands on the south side of the Zeughausplatz. In 1857 several alterations were made and a second storey was added, its present form being then completed. In 1919 a new branch of the National Gallery, known as the Gallery of Modern Art, was installed here.



FORMER IMPERIAL PALACE, SHOWING NORTH AND WEST FACADES

The north and west façades of the Royal Palace, a structure rectangular in form with massive and imposing proportions, formerly the residence of the imperial family, now a Museum of Industrial Art, rise in four storeys to the height of 98 feet, while the dome is 232 feet high. The west façade has a great central portal of effective style in imitation of the Arch of Septimius Severus in Rome.



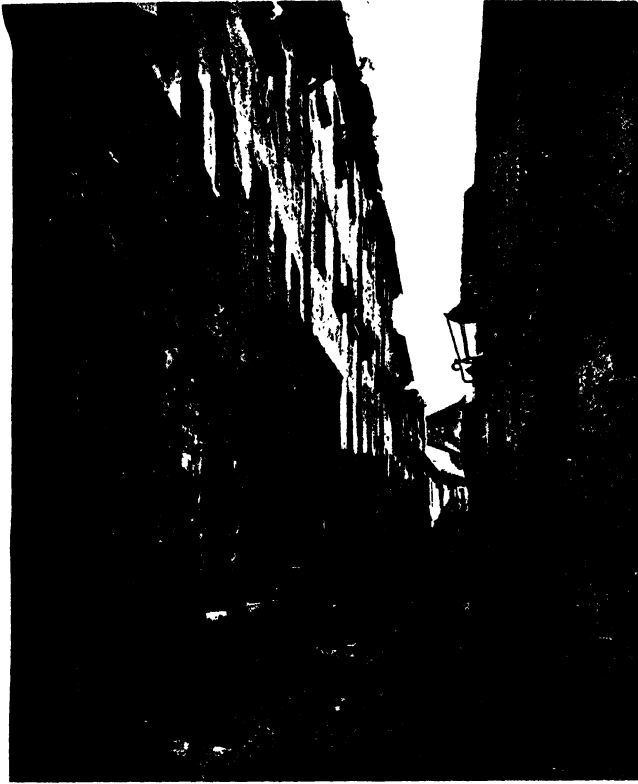
MASSIVE PILE IN WHICH THE PARLIAMENT OF THE GERMAN PEOPLE DELIBERATES

Flaunting its imposing, if somewhat florid, Italian Renaissance facade on the east side of the Königsplatz stands the Reichstag building, constructed in the eighteenthies; of Silesian sandstone, it is 290 feet broad and the imperial crown surmounting the glass dome, beneath which is the Session Hall, is 246 feet above the roadway. Symbolic statuary adorns the pediment above the portico, and between two fountain basins in front rises the monument to Prince Bismarck by Begas, surrounded by subsidiary groups showing in allegory the growth and power of the German Empire and Constitution



Donald McLaughlin

MODERN STREET ARCHITECTURE IN CHARLOTTENBURG REPRESENTING THE LATEST ADVANCE IN TOWN PLANNING
 The district of Charlottenburg lies on the Spree to the west of Berlin adjoining the Tiergarten and nearly two miles from the Brandenburg Gate. It is a separate municipality, but is policed from the metropolis and has acquired its importance and prosperity only within recent times. In 1880 the town's population numbered 30,000; in 1923 it exceeded 320,000. It is well built with many notable structures; in the main streets are three tracks, for horse traffic, for motors and for trams, the last track being planted with turf and flanked by flower-beds. It received its present name from Sophia Charlotte, wife of Frederick I.



REMINDER OF OTHER DAYS

E. N. A.

Affording a glimpse, all too rare, of Old Berlin, the narrow alley known as Am Krögel leads down from the Molkenmarkt to the Spree; hereabout was the centre of the earliest settlement on the site of the modern town.

groups of nude male and female giants, and as it is practically level with the ground the effect is grotesque instead of imposing. Another work by Begas is the really beautiful white marble monument to William I., with its Greek temple rising out of the Spree. Opposite the Schloss is the New Cathedral, a well-balanced Renaissance building not unlike St. Paul's in London, flanked by the so-called Lustgarten, a small square laid out in flower-beds and planted with shady trees.

North of the Lustgarten, and consequently looking towards the Schloss, is the severely classical Greek temple with an Ionic portico of eighteen columns known as the Old Museum. The central part of the structure which rises above the portico is in the shape of a screen, whose corners are adorned by copies in bronze of the Horse-Tamers

in the Piazza Quirinale at Rome, and in the middle is a Pegasus. The steps are also flanked by Greek statues. In front of this, the most artistic building in Berlin, is an equestrian statue of Frederick William III. Behind the Schloss and to the east of it is the handsome Kurfürstenbrücke with the splendid equestrian statue of the Great Elector. Altogether this is a splendid, spacious quarter of the town and well worthy of a great capital.

Farther east, in the Königsstrasse, is the plain municipal building, the old town-hall, or Rathaus, which looks like a railway-station. The Exchange, or Börse, is also an unpretentious pile, and the office of the Chief of Police, in the Alexanderplatz, is like a factory. Farther east is a whole

district of warehouses, factories and workmen's dwellings.

Let us return to Unter den Linden. The statue of Frederick the Great, with the royal palaces, is at the opposite end to the entrance from the Tiergarten by the Brandenburg Gate. Originally Berlin did not extend beyond this gate, and the Tiergarten reached to Potsdam and was strictly preserved. To-day the Tiergarten is a sort of Hyde Park, only vastly larger, and Berlin, merging with Charlottenburg on the one side and Moabit on the other, has gradually crept round it. The new streets which have in recent years been added are fine, wide and straight, and consist of houses of some six or seven storeys, built, some of them, to resemble gigantic non-detached cottages and provided with every modern improvement—even vacuum cleaners. Underground trains

and trams connect these outlying districts with the centre. An absence of churches is a characteristic feature of these suburban districts.

Entering Berlin from the Tiergarten on a fine spring morning, for the early spring and midwinter are the best times of the year for visiting that city, we shall find the smart world early about taking the air on horseback. The Brandenburg Gate itself is an imitation of the Propylaea at Athens, was erected

in 1789, and is surmounted by a Quadriga of Victory in copper. This beautiful equestrian group was taken to Paris in 1807 by Napoleon, but fetched back by Blücher in 1814. On our left we can just see the handsome Reichstag building and the hideous column of Victory, but the famous Siegesallee, with its row of Hohenzollern statues, is behind us and not in sight.

After passing through this gate there will be seen on the right hand a small



ONE OF THE OLD-WORLD COURTYARDS GIVING ON TO AM KRÖGEL

In the proper sense there are hardly any slums in Berlin; but here and there in the old town odd corners may be found that take one back to the days before the capital had blossomed forth into a self-conscious "Weltstadt." In Alt-Köln especially is this so, or in the Krögel alley out of which a few venerable courts such as this still open to delight eyes wearied with much splendour



Donald McLeod

MEMORIAL OF THE FIRST GERMAN EMPEROR

Shaped like a Latin cross, with a west tower 370 feet high, three rose-windows and a very fine interior, this Romanesque church was raised in the Charlottenburg district of Berlin to the memory of Emperor William I.

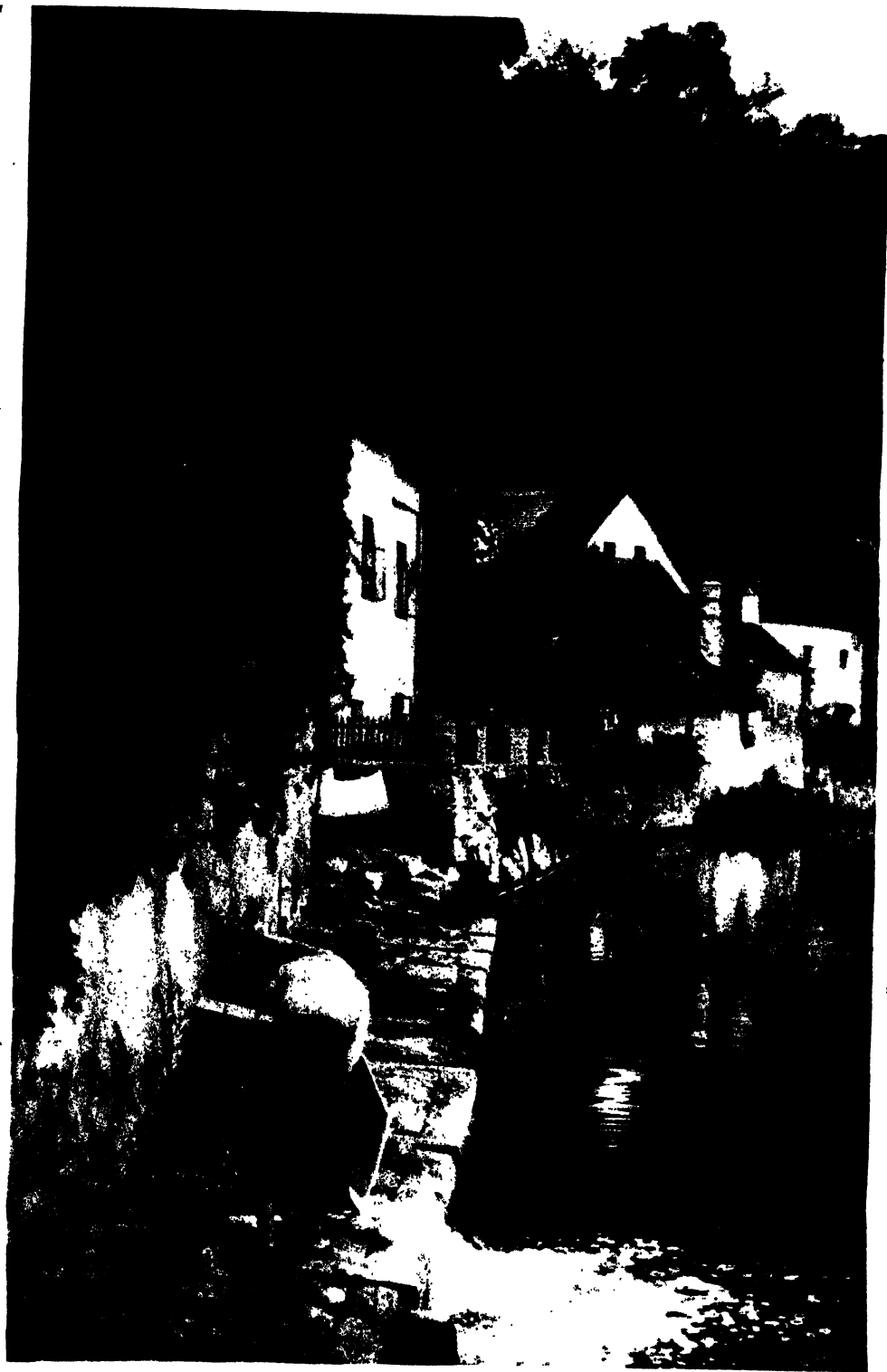
Greek temple; this is the old guard-house, no longer the joy of street-boys who loved to see the guard turn out for some general or exalted personage. There is another such guard-house at the other end. We then come to the Pariserplatz and facing us is Unter den Linden with the now historical Hotel Adlon at the corner. The avenue is 196 feet wide and about a mile in

length, along the centre is a broad footway shaded by lime and chestnut trees, on each side there is a track for riders, and beyond these is a carriage-way with a well paved side walk. Here are the principal high-class restaurants, mostly small, elegant and select; one of these is still kept exactly as it was in the days of the great Frederick, with its sanded floors and its tables of plain deal.

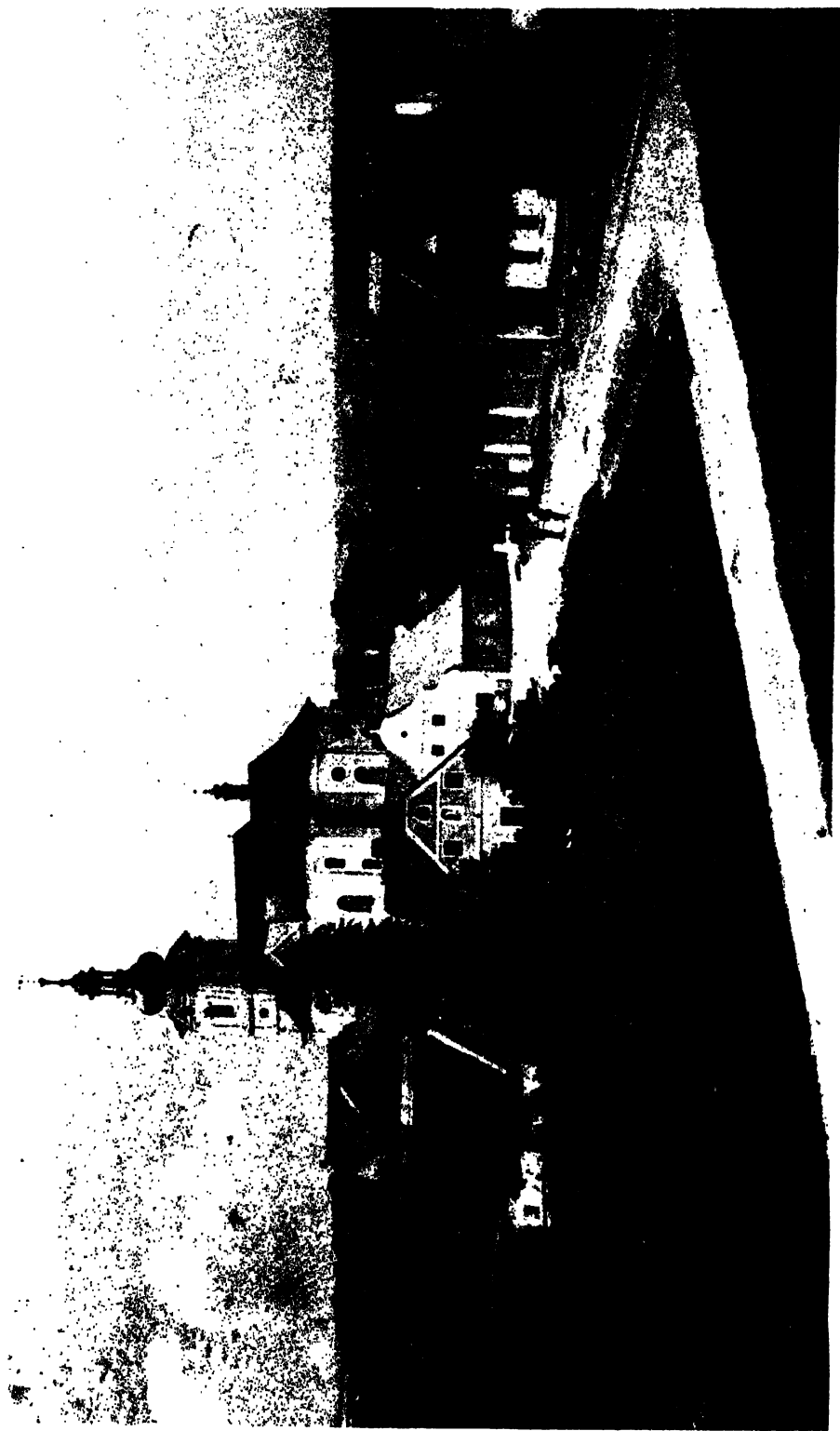
What will strike the visitor to Berlin most will be the absence of well dressed people, especially the shabbiness of the ladies in the streets. Before the Great War Berlin was nearly, if not quite, as smart as Paris, but to-day the middle classes are needy and have pinched and anxious faces and are badly clothed.

Little space remains to describe the life of the city, its numerous cafés, its spacious beer-halls, its delightful gardens and open-air concerts, its many excellent and comfortable theatres and its pleasant social life, but enough has been said to give the reader a general idea of the town. The student will be surprised

at the number of museums, and to the man of science Berlin is, indeed, a "spiritual home." But there are practically no clubs, the "Bierlokal" taking their place. At these wonderful resorts there are what are called Stamm-tische, reserved for certain coteries which assemble regularly at fixed times and discuss in loud and often violent language the affairs of the day.



BOHEMIA. *The largest affluent of the Labe or Elbe is the Moldau (Vltava); on its banks many a scene of homely industry is enacted*



CHARLES MUSEK
BOHEMIA. Contrasts of scenery are very sudden within these mountain borders. Here a ruined stronghold tells of past romance and glory ; there a flourishing hamlet boasts modern architecture and enterprise

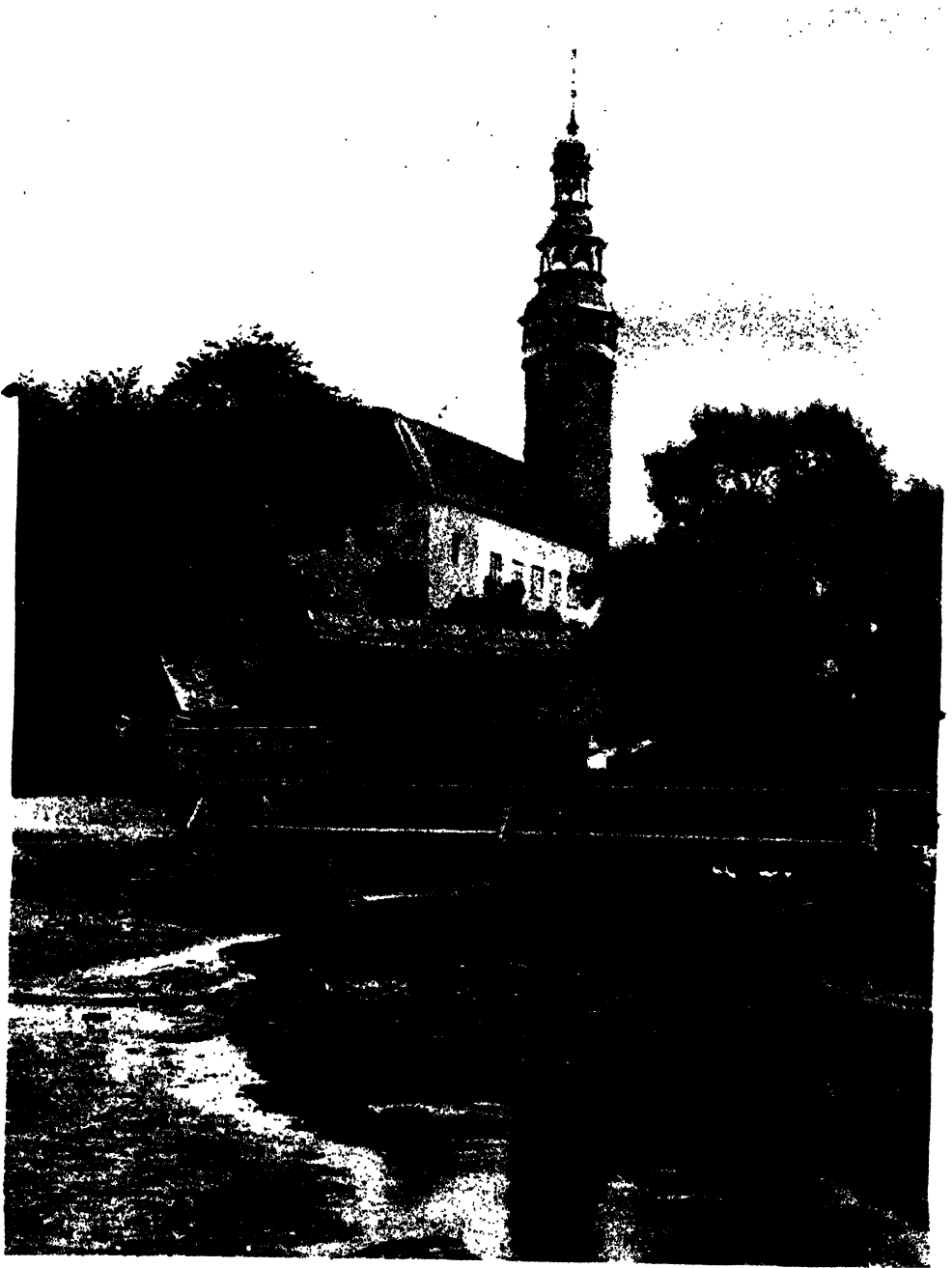


Charles Mueck

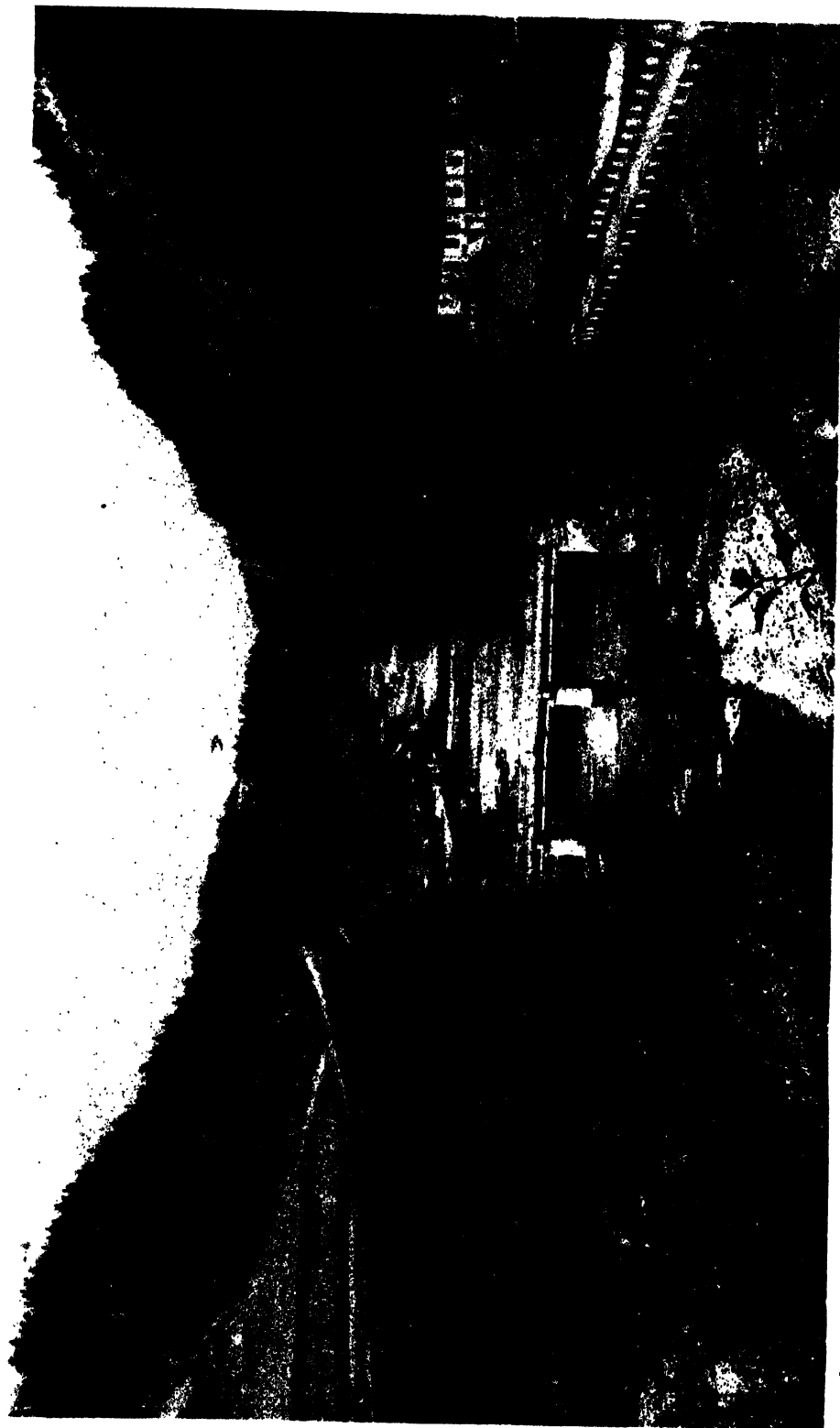
BOHEMIA. Near Dour Kralove in a smiling and well-cultivated district lies this peaceful village, peopled by a thrifty peasantry whose handiwork can well compare with the manufactures of urban establishments



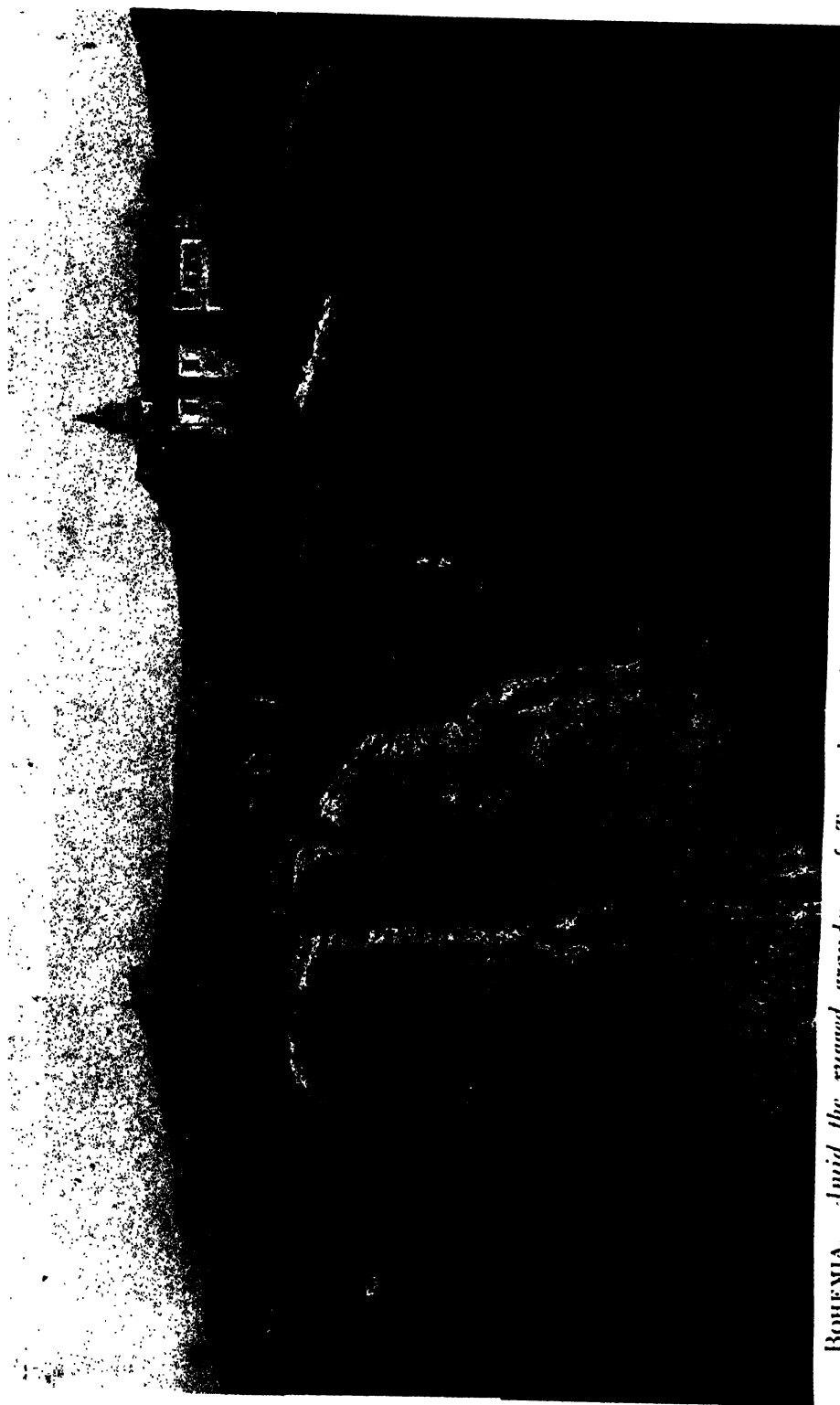
BOHEMIA. *Krivoklat Castle occupies a beautiful location in the Bohemian Forest and an important place in Bohemian history*



BOHEMIA. *In Domazlice stands this old castle, erstwhile property of the Chods, the medieval guardians of the south-west borderland*



BOHEMIA. *A series of lovely scenes unrolls along the course of the Jizera which, rising in the Sudetic range, meanders restlessly through gorge and dale, finally losing itself in the rushing waters of the Labe*

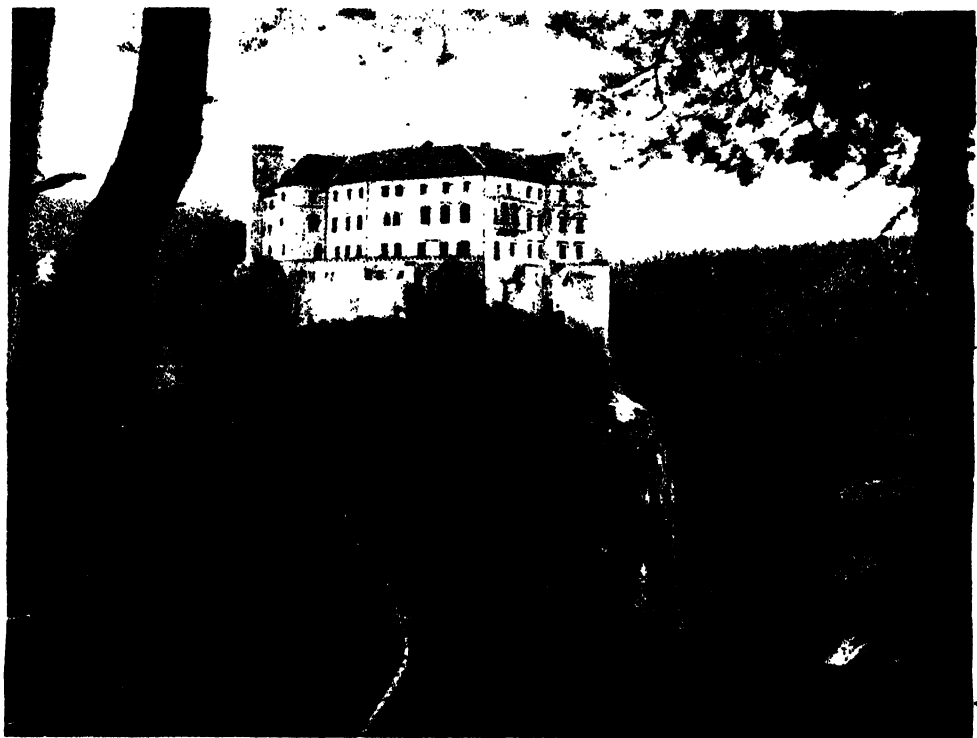


BOHEMIA. Amid the rugged grandeur of Turnov's environs the château of Hrubá Skala rears its head, while in the dim distance loom the twin towers of Trusky one of the notable sights in this castle-peaked land



E. O. Hoppe

In the lone highlands of the Bohemian Forest lie sequestered villages retaining many interesting old-time features and associations



BOHEMIA. High above the Moldau, near Pisek, Orlik Castle commands a wide-stretching landscape richly forested with beech and pine

BOHEMIA

Hill-girt Entity of Central Europe

by Lt.-Col. B. Granville Baker, D.S.O.

Author of "The Danube with Pen and Pencil," "From a Terrace in Prague," etc.

BOHEMIA is the best instance among countries of the European continent of a self-contained geographical unit eminently suited to be the home of a people bent on developing a national identity on their own lines. This geographical and also geological unit consists of a block of the old rock formation which arose out of the chaos before the backbone of Europe—that chain which stretches with few interruptions from the Caucasus to Andalusia; it threw up its serried peaks above the region of forests and the grassy slopes that provide summer grazing for mountain sheep. In shape this Bohemian block may be likened to a lozenge in the heraldic sense, its points directed north and south, east and west.

Further to assist Bohemia in working out its destiny, nature so ordered matters that the glacial movements which carved out the courses of waterways have left a framework of mountains to protect this land and close it in. Four distinct ranges of heights form the frontiers of Bohemia, each of these ranges having its individual character clearly outlined, its definite functions clearly indicated in the organic life of the country.

Protecting Framework of Mountains

To the north-westward the Ore Mountains separate Bohemia from Germany while leaving a line of communication by the deep-cut gateway of the Elbe, of which river Bohemia may be described as the basin as it is also the cradle. The north-east border runs along the summits of the Giant Mountains, the crest of the Sudetic Range, until the latter dips down

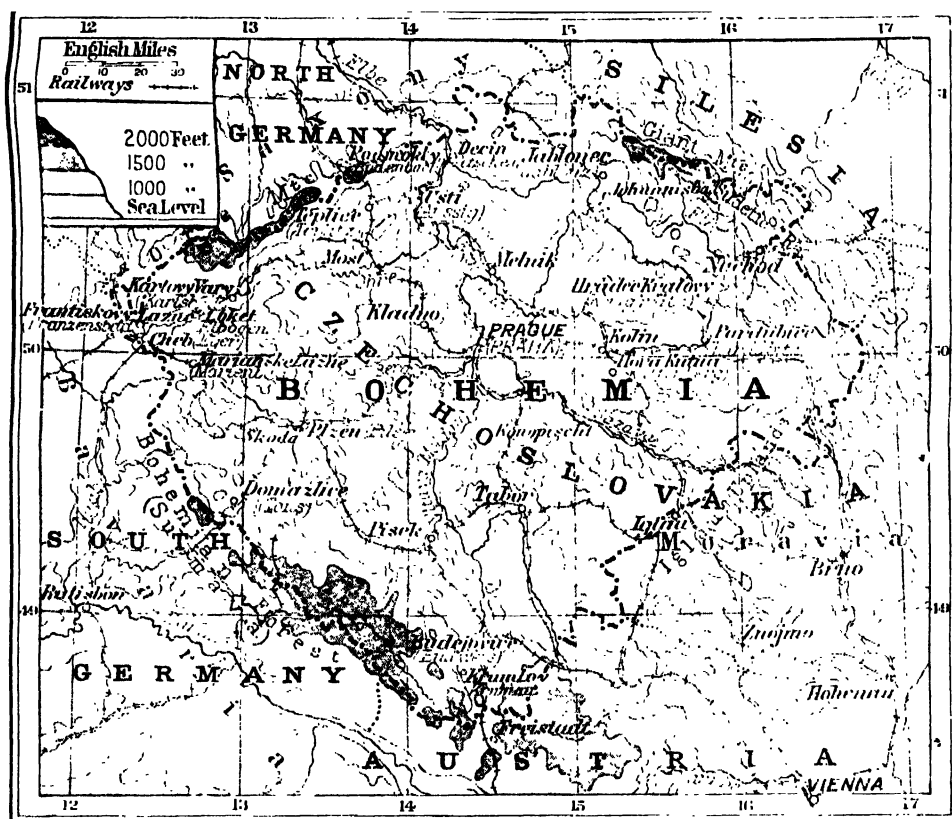
towards the Moravian river system beyond which the Beskid heights rise up to join those of Tatra and the Carpathians. The Bohemian Forest, the south-western side of the lozenge, runs from north-west to south-east until it touches the channel of the Danube which separates the later Alpine formation, the spurs of the Wiener Wald, from the ancient Bohemian block. Along the Moravian heights, the watershed between the tributaries to the Elbe, hereinafter called by its Czech name Labe, and the Danube, runs the south-eastern frontier.

Fertile Plains and Verdant Valleys

That Bohemia has no sea coast and probably never had one is evident from its position, right in the heart of Europe. Shakespeare did not intend to connect this country with the sea; indeed his Bohemia was a land in quite another part of Europe and came by its ephemeral name from that of a King Bohemund who once ruled over it long ago.

The superficial area of Bohemia is 20,333 square miles. A section from the western to the eastern points of the lozenge would give us the figure of a gentle slope falling from either side in wavy lines, steeper on the west and intersected at about one third of the way by a river bed with a valley some three or four miles wide. A similar operation from north to south would present much the same result, but that the slope from the Ore Mountains is more precipitous and that the basin of the Labe is much wider.

All the waters of Bohemia drain away towards the North Sea. Of these waters the two most important



BOHEMIA AND ITS UNIQUE GIRDLE OF MOUNTAINS

are the Vltava and the Labe, better known to us by their German names, Moldau and Elbe respectively. These two rivers mingle their waters some 30 miles north of Prague (Praha). The Vltava emerging from the wood-clad gorges of the Bohemian Forest winds its way among the breezy uplands in a green valley; the Labe running down southward from its source among the snow-clad Giant Mountains takes a wide sweep to westward, rolls over a broad and fertile plain, and, reinforced by the Vltava, forces its way out of the country through a gap in the sandstone ridges of the Ore Mountains.

It would seem as if the Vltava, and several of its tributaries which flow in from the southern heights, found some difficulty in draining off their volume of water; and so among the forests a number of lakes have formed where you might otherwise expect to find pasture land. The obstruction is

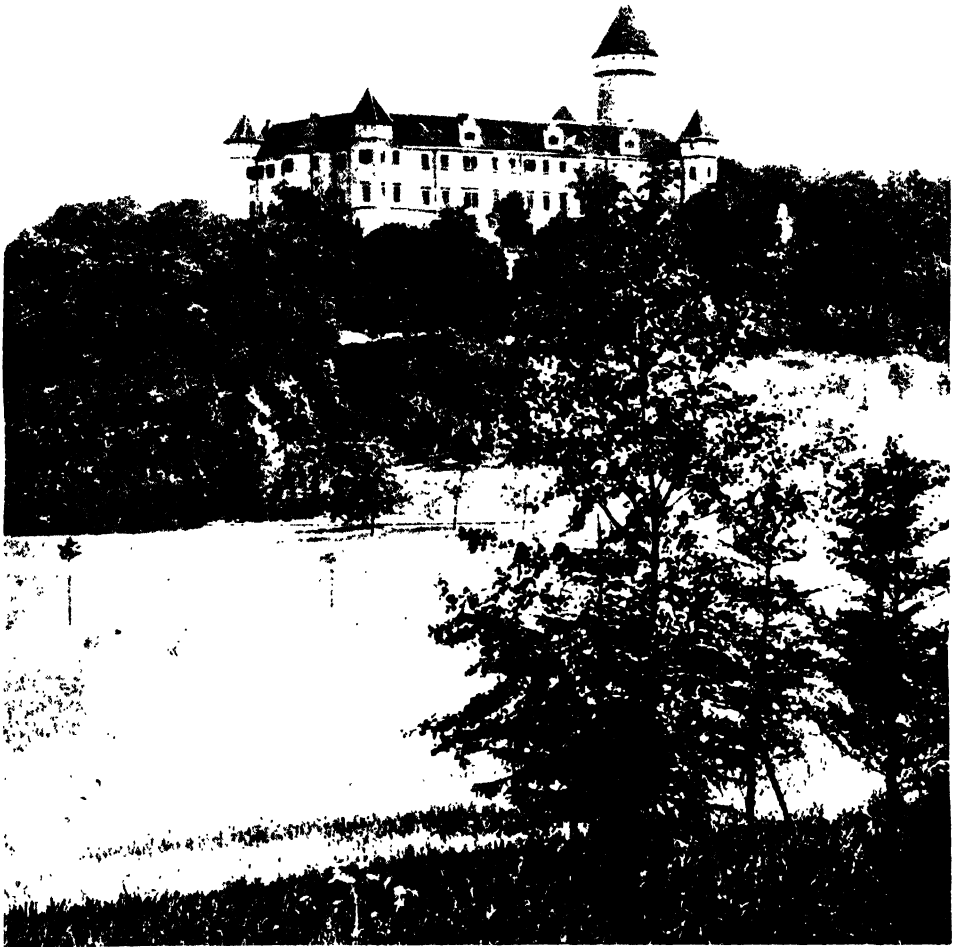
caused by glacial deposits drawn across the valleys, a feature which may be found in other lands of mountain lakes.

Whether you enter Bohemia from Bavaria to the westward, Austria on the south or Silesia to the northward, the general impression is of gentle but considerable heights on which as you descend conifers make way for deciduous trees, green pastures fringe the forests, and finally rolling plains appear, highly cultivated, with no arable land wasted by hedgerows. Entering Bohemia from the south-east, from Moravia, you seem to pass over rolling uplands, plateaux with spurs running out towards the north-west. Here again is arable land interspersed with woods, and in the valleys lush meadows and orchards. Leaving the heart of Bohemia by the western route you have a fair expanse of cultivated upland sloping down to a wide green valley. Your horizon is confined to the northward by the blue

shapes of distant mountains, rugged and uneven, sparkling in the sunshine ; to the westward by the darker, straighter outlines of the Ore Mountains. Then just below Usti (Aussig) the heights, clad in sombre fir woods, close in upon you as you pass out of Bohemia. The picturesque region beyond this gate is probably known to many as "Saxon Switzerland," which name is rather an impertinence.

Enclosed by sheltering heights, Bohemia enjoys a climate somewhat more temperate than its position in Central Europe would lead you to

expect. The hot air-currents which parch the Hungarian plain are cooled down by the intervening heights as they pass from Moravia into the Bohemian basin. The winter is severe, but lasts, as a rule, only two months and a half. The annual mean temperature at Prague (Prahá) is 48° F., and ranges between 30° and 68°. The rainfall is sufficient for the agricultural requirements of the country, and is heaviest in the summer months, varying between 20 and 30 inches in the basin itself. The mountain borders naturally have a heavier rainfall, that of the



KONOPISCHT CASTLE: ONE OF BOHEMIA'S HISTORICAL MONUMENTS

An endless succession of magnificent old castles adds to the charm and interest of the Bohemian countryside. They are perched on rocky heights over swift-flowing streams or embowered in greenery on richly-foliaged hills: some in a fair state of preservation, others mere crumbling walls, yet breathing history and romance, for most of them have figured in the fiery annals of the land

Giant Mountains, where heavy thunderstorms pile up in dark masses against the lingering snows, amounting to about 40 inches. This is exceeded by the 70 inches rainfall over the Bohemian Forest, which holds up the moisture brought by the south-west winds, and with it feeds the streams that give volume to the rivers of Bohemia.

These conditions, both physical and climatic, have acted and reacted on the political development of the people of Bohemia. According to legend, one Czech came into this land with his tribe, saw that it was a good place to be in and settled here. This is said to have happened after a Teutonic tribe, the Marcomanni, and later a Celtic tribe, the



Jana Hradka

UNASSUMING ASPECT OF A TOWN WITH A WORLD-FAMOUS INDUSTRY
Pilsen, now the official name of the old town of Pilsen, is the second town of Bohemia, the western portion of the Republic of Czechoslovakia. Apart from its staple article of manufacture—Pilsner lager, which is brewed in the municipal brewery and appreciated all over the world—the town's industrial products include leather, paper, earthenware, enamelled tinware and machinery.

Though the climate of Bohemia is capable of certain vagaries, especially when upset by occasional thunderstorms, yet it is on the whole sunny and serene, with a current of air along the way of the rivers. There is little difference in rainfall or temperature between lower and higher levels, but towards the beginning of August the heat at night in the large towns of the valleys becomes oppressive, and those who can do so flee to the woods and the mountains, to the health resorts of which some are world-renowned—Marienbad, Karlsbad and Teplitz, for instance.

Boievari, hadl sojourned here awhile. It is generally supposed that the latter gave the name of Bojohemum to this country before they left it. In all probability the round-headed inhabitants of the highlands to eastward moved down into the valleys of the Bohemian basin driving the long-headed Nordic race westward. They then settled in small groups in forest clearings, and by the time the descendants of the people they had driven out returned with culture acquired from south-western Europe, these Slavonic-speaking round-heads were firmly



PILSEN: FACADE OF THE FINELY PROPORTIONED MUNICIPAL THEATRE

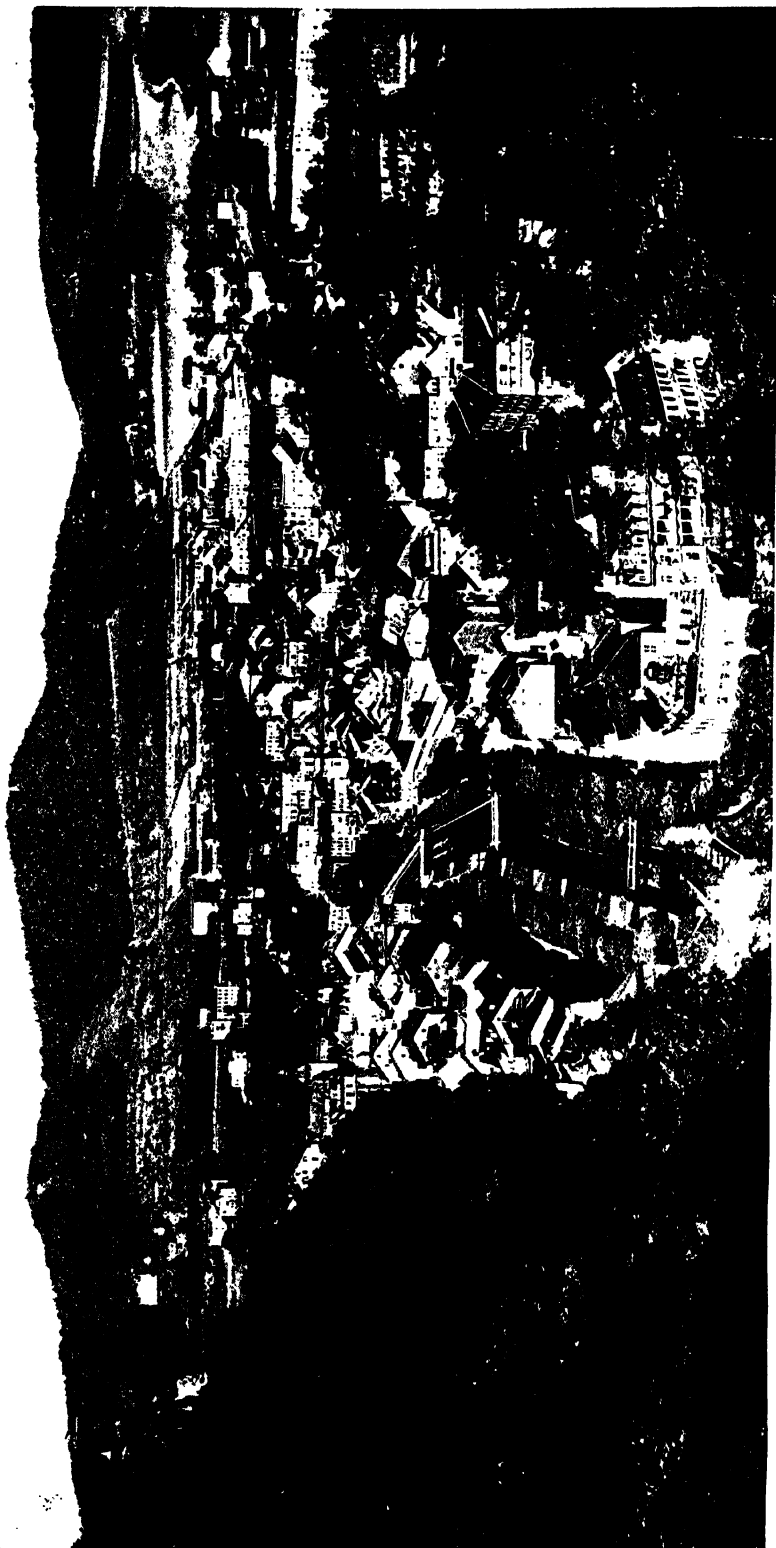
The town of Pilsen (Plzen) has historic interest as the centre of Catholic resistance to the Hussites during the Hussite Wars and the scene of the conspiracy of Wallenstein in 1634; the Renaissance town-hall still contains the old banqueting room where the great leader received the oath of fealty. Among other prominent buildings are the church of S. Bartholomew and the Municipal Theatre.



Jana Hradka

TRANQUIL CORNER OF PILSEN, THE BURTON OF BOHEMIA

Despite intense commercial activity Pilsen has many a quiet corner such as this by the old bridge seen above. From this pleasant spot, looking townwards, one sees rising grey in the distance the slender spire of the high-roofed Gothic church of S. Bartholomew, a structure of which the natives of Pilsen may be justly proud, for the tower, 325 feet high, is said to be the loftiest in Bohemia.



GENERAL VIEW OF KARLSBAD. THE CELEBRATED AND POPULAR WATERING PLACE OF BOHEMIA

Seventy miles west-north-west of Prague, or Praha, in the narrow valley of the Teplá near the river's confluence with the Ohře (Eger), and at a height of more than 1,100 feet above sea-level, is situated the well-known health resort Karlsbad, or as its official name now is, Karlovy Vary. During the season, from April to October, the town sees an enormous influx of guests, most of whom repair daily to the various springs and baths. The warm alkaline springs, whose waters, used for bathing as well as drinking, have brought fame to the district from at least the fourteenth century, vary in natural warmth from 163° to 85° F.

established and had developed a physical and linguistic individuality.

Secure in its framework of mountains, Bohemia early formed its national consciousness and was in a position to assert itself against aggression from the west. It formed a nucleus for Slavonic culture endangered by the rising tide of Germanism—a culture which was fast vanishing in former Slavonic lands outside the frame, northwards in Prussia, westwards in Saxony. To this enfolding framework of mountains the world is indebted for much that is beautiful in art, especially in music. The scattered groups which moved down from a zone of difficulty to one of effort acquired cohesion. Favourable climatic conditions gave to the toiler sufficient leisure to criticise his day's work on its completion, to extend his critical faculties to other, wider spheres; and so we find, as is frequently the case with nations weak numerically and therefore militarily, a directness and a strength of purpose which produces great results in the higher planes of thought. Bohemia gave birth to Hus the reformer and Comenius the educationist.

Alpine Flora but not Fauna

In early times the normal temperature throughout Europe was a good deal lower than it is to-day, therefore the vegetation of the ramparts which enclose Bohemia would be chiefly the fine grass which springs up so richly when the snows melt. By degrees under a rising temperature the zone of conifers would climb to higher altitudes until it covered, as it does now, the crest of the heights, followed by deciduous trees.

Thus we find the Bohemian Forest, the Ore Mountains richly clad with forests, especially on the lee side, and the Giant Mountains decked to a lesser degree, as greater height and lower temperature only allow of grass on the higher ridges. With milder climatic conditions came the flora of the Alps to mingle with that of Central Europe, though such rarer forms as edelweiss have not migrated. Alpine fauna nevertheless did not

travel as far afield as the Bohemian block—which is plentifully stocked, however, with the usual European varieties. Stag and deer, fox and hare are indigenous, badger still offers sport, the forests shelter blackcock, woodcock and the pheasant imported long ago, while partridges and quail are found in the fields, duck, snipe and occasionally wild goose in the lower levels of the river basins. It is doubtful whether the horse was ever indigenous, though a useful type of medium draught is bred in Bohemia; oxen, still used for agricultural labour, may be descendants of the wild cattle of prehistoric Europe; the wild boar is not extinct and his well-bred scion is popular and prolific. Amongst the oldest inhabitants of Bohemia may be reckoned the trout and crayfish of the mountain streams.

Life in a Zone of Effort

As already remarked, Bohemia is essentially a zone of effort; that is, man has to work hard for his living, but not so hard as to use up all his energies. The round-headed settlers, who in detached groups cleared the forests and applied the methods which came to them from the civilized south, soon met in intercourse and competition as the uplands were cleared for agricultural purposes. They learned to cultivate cereals at an early period of their history and found the soil sufficiently fruitful for the needs of a small and self-contained population; until a century or so ago Bohemia was self-supporting.

Growing Needs of a Growing Country

With the rise of industry and the rapid increase of population demands on productivity began to exceed the possibility of supply, and Bohemia is now obliged to import a considerable quantity of corn and flour. Nevertheless, the country is in a position to produce sufficient rye for its requirements and to export oats and barley. Another important article of export is hops. In addition to this Bohemia cultivates sugar-beet extensively, and



Czechoslovak Legation

FASHIONABLE LIFE IN A FAMOUS AND MUCH FREQUENTED SPA: THE KREUZBRUNNEN, MARIENBAD
 The Bohemian watering places are renowned all over the world and the four best-known spas, Karlovy Vary (Karlshad), Mariánské Lázně (Marienbad), Františkovy Lázně (Franzensbad) and Teplice (Teplitz) all lie close together along the north-west frontier of the country on the spurs of the Ore Mountains. At the high altitude of nearly 2,000 feet, the air of Marienbad is delightfully bracing. Charming walks intersect the town and the neighbouring pine forests—the promenade of numberless visitors who, during the early morning hours, gather at the medicinal springs and, to the strains of light music, drink of the waters

the export of this product helps towards paying for the fertilisers, saltpetre and super-phosphates necessary to enrich a soil impoverished owing to the scarcity of natural manure—a consequence of the Great War which made disastrous demands on the country's stock of cattle. Stock-raising is not a strong point in Bohemia's otherwise progressive agricultural industry. Meadow and pasture land are only about 19 per cent. of the total area; cattle are generally kept stalled and fed on such green food as clover, lucerne and green Indian corn, a cereal introduced by the Turks via Hungary and still called by its Oriental name "kukurutz" (this is spelt phonetically).

Landscape Lovely with Fruit Blossom

Among the exports of agricultural produce, exchanged for foodstuffs imported from America and the Balkan States, is alcohol distilled from fruits, cereals and potatoes. And yet another product may be mentioned in this connexion—wine pressed from the fruit of the vineyards on the terraced slopes which come down from the spurs of the Giant Mountains to meet the Labe and Vltava, where these rivers join at Melnik. The wine of Melnik, both red and white, is good, but it does not yet serve as an article of export, and is in fact little known outside Bohemia.

No one who has travelled up the valley of the Labe into Bohemia in the spring-time could ever forget yet another feature of this country's rural life with its promise of "kindly fruits." All along the way in orderly rows by the roadside, or as borders to the fields, are fruit trees—apple, pear, plum and cherry, especially cherry, a glorious unforgettable sea of bloom. Bohemia exports a considerable quantity of fruit both fresh and dried.

Although Byzantine travellers of the fifth and sixth centuries spread tales about the aquatic habits of Bohemia's Slavonic inhabitants, the latter are not much given to fishing. Barely 500 men and women are engaged in this

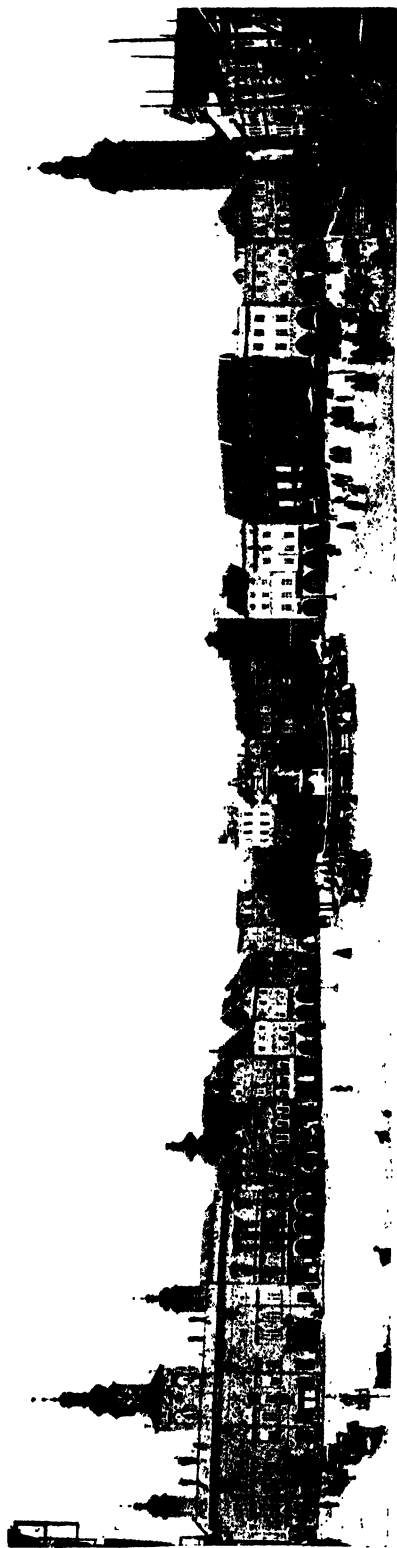
industry, and as a pastime or sport fly-fishing has no considerable number of votaries. You may find the meditative angler by the river's bank, but those who are after appreciable results take a large net on a square framework and attached to a long pole. Trout and crayfish are also netted.

Difficulties that Face the Farmer

The leading primary occupations are still agriculture, forestry and mining. Of these the former gives occupation to about 30 per cent. of the population, and the bulk of these are Czechs not the immigrated Germans whose traditions and abilities lead them rather to town life and the crafts. Although the temperate climate of Bohemia makes of that land a zone of effort, the soil, light and friable, presents difficulties both to the intensive culture of beet and hops and to the extensive culture of cereals. Heavy rains are apt to wash away a good deal of soil and there is little terracing to check this movement. Then again there is little alluvium and consequently no intensive market gardening. However, in this respect the country is able to supply its own requirements. The river beds are marshy in places, and on the Labe plain are tracts of sand, heath-covered notably in the Pardubice (Pardubitz) district. There is, however, no occasion to import soil and the marshes are being steadily drained. They offer moreover excellent grazing for the large flocks of geese, the bird that supplies the Bohemian farmer's wife with many commodities and also an appreciable amount of pocket money.

Fate of Home Handicrafts

Home industries are disappearing, the old group system having paved the way for cooperative societies, so that many farm products of earlier times are now supplied by factories. Spinning and weaving, for instance, no longer employ the women on winter evenings, though the old costumes are still worn on feast days. In some districts of



SPACIOUS PUBLIC SQUARE IN BUDWEIS, A PROMINENT TOWN AND AN EPISCOPAL SEE OF CZECHOSLOVAKIA

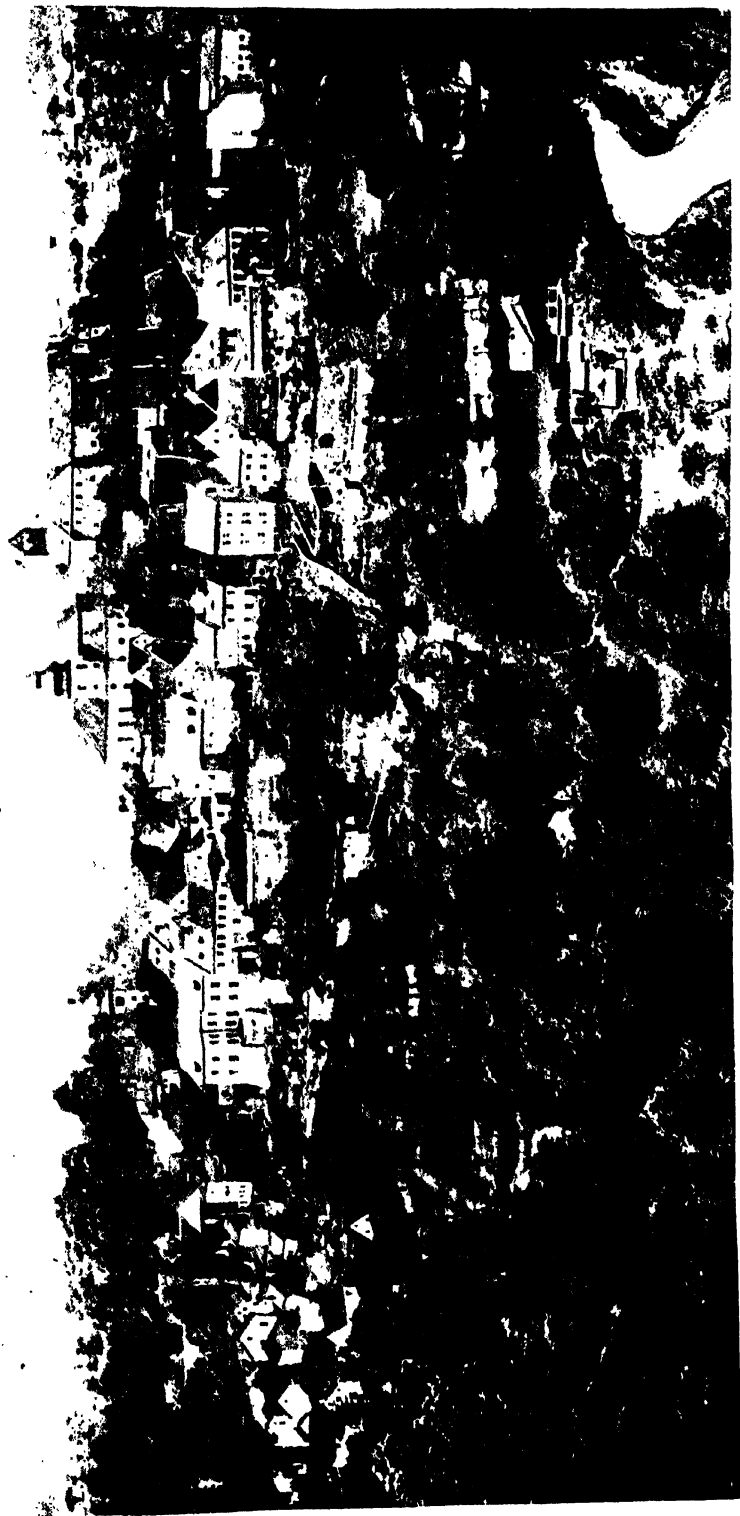
Located on a plain at the foothills of the Sumava or Bohemian Forest, on the Vltava, the greatest tributary of the Labe, is the prosperous town of Budejovice, or Budweis, with its notable public square, flanked with fine arcaded buildings among which is the handsome town-hall, erected in 1730 in Renaissance style

Bohemia the women produce embroidery of exquisite workmanship and delicate taste, despite the fact that from their earliest years they bear a considerable part of the farmer's burden, even the heavy field work. It is this heavy manual labour imposed on the women which accounts for a considerable number of deformities. Homely simples such as chicory, which must have been known and used before ever coffee was heard of, are grown extensively for the factories, but we never utter the word in the best cafés. Then again the brewing of beer has been absorbed by large concerns at Plzen (Pilsen), Budejovice (Budweis) and other centres.

It seems doubtful whether Bohemia will in the future be self-sufficient in beef and mutton; but, at least, the dairy produce suffices for its needs. Pork is also plentiful and popular.

The agricultural expansion of Bohemia, even if it were that country's chief aim, is checked by the extensive zone of forests which decks the high borders of the Bohemian block. Forestry provides an occupation to which the Slavonic inhabitants of the country have proved themselves singularly well adapted. They have always preferred the open life of field and woodland to that of the town. The higher altitude of the forest lands is more favourable to soft-wood conifers, and in this line Bohemia, after supplying its own needs in pit props, telegraph poles and so on, has an ample margin left for export. Hard wood has to be imported in order to maintain the manufacture of furniture which has been concentrated in various towns, though in remote forest settlements you may still find home-made goods, brightly coloured, and their by-product—toys of skilled artistry and workmanship.

The government is earnestly concerned with the development and improvement of forestry, and is devising means to increase the yield; but primary occupations are apt to lose ground before the advance of the secondary occupations represented by manufacturers, the



TOWN OF LOKET. IN A WIDE-SPREADING VIEW OF THE BEAUTIFUL WOODED SCENERY OF THE ORE MOUNTAINS

Loket derived its former name Elbogen, or Elbow, from the abrupt bend of the river Odra, or Elger, round the rocky eminence on which the town is attractively situated. This river rises in the highlands of Saxony and most of its course is in Bohemia and amid very picturesque mountain scenery. Between Loket and Karlsbad, a distance of a few miles, it winds through a deep and tortuous ravine, and then flowing at last due east finally falls into the Labe near Litomerice. The old castle seen on the right, to which various traditions attach, is said to have been founded in 879.



E. O. Hoppé

OLD TOWN RIFE WITH MEDIEVAL MEMORIES

On a rock high above the river Vltava stands the handsome old château of Prince Schwarzenberg, the dominating feature of Krumlov, or Krumau, an old town of steep, narrow streets situated at an altitude of 1,780 feet in the Bohemian Forest

industrial and his concomitants, transport workers, middlemen and financiers. And these latter draw their resources from Bohemia's most profitable primary occupation—mining. The decline among some of the primary occupations, such as peasant home industries, is more than compensated by the improvement in mining, which with the industries it fosters may well be the chief cause of this decline.

The old rock formations are, as a rule, generous in the useful minerals they supply to man, and the Bohemian block is particularly favoured in this respect ;

Bohemia has gold, silver and precious stones, but above all coal, and a yet more priceless mineral, radium. Gold and silver are found in the neighbourhood of the capital ; indeed at one period the king and his court migrated to Kutna Hora (Kuttentberg) where the silver mines are, some 20 miles from Prague. He was having considerable trouble with his subjects at the time and no doubt found it wise to sit down on the quickest and surest source of revenue. Gold is found only in small quantities, and Bohemian garnets can only be counted as of very little value.

It is on the edges of the lozenge that the minerals of Bohemia are found in considerable quantities, and of these the Ore Mountains, as the name suggests, are the most highly favoured. It is interesting to note that the lignite formations of the Ore Mountains are roughly on a level with the sources of mineral waters, on a belt in fact which is roughly indicated

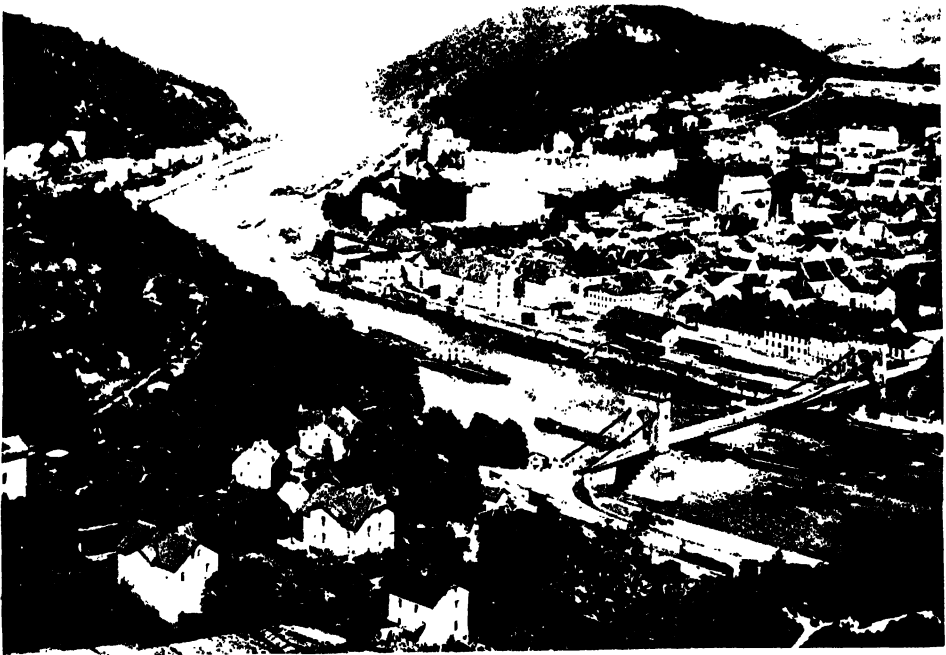
by the railway line connecting Cheb (Eger) and Marienbad with Karlsbad, Most (Brüx) and the Labe ; whereas coal is mined on a lower level farther inland and roughly on and about the line Plzen (Pilsen) and Kladno.

The watering places of Bohemia have been famous for centuries, though most people were inclined to group them all into Austria if not Germany before the Great War altered the political map of Europe. Some old favourites appear under a new name, or rather a Czech instead of German name. There is Karlsbad as Karlovy Vary with its hyperthermal

springs, sulphurous, chloritic and bicarbonated. Charles IV. is said to have discovered these springs when out hunting one day. There are other old friends, Marienbad now Mariánské Lázně, Franzensbad now Františkovy Lázně, Teplitz now Teplice, and numerous health resorts among the mountains.

Of other minerals there are copper and iron pyrites, but not enough for industrial needs, some lead and tin, also wolfram and antimony. Another very useful mineral found near Karlovy Vary is kaolin, an excellent raw material for the porcelain industry which has flourished in Bohemia on a large scale for well over a century. Quartz comes from the Bohemian Forest to help the glass industry, which was introduced into this country from Venice many centuries ago; granite is exported, and so also are limestone and cement. Bohemia is therefore well stocked with minerals, and there seems little likelihood at present of the supply running out.

An interesting development of the primitive group system among a homogeneous population is to be found in the ordering of the conditions under which work is organized and regulated, especially in industries and mining. The latter occupation early attracted the attention of the authorities, and there are mining regulations in Bohemia dating back to 1250. This insistence on regulating the life and work of every one of its subjects was a matter of political faith in the former Austro-Hungarian Empire of which Bohemia until recently was the leading manufacturing province. The government of the new Republic has to a certain extent inherited this tendency, and is endeavouring to adapt it to the idiosyncrasies of the Bohemian people. It is yet early to judge of the results of legislation affecting primary and secondary occupations, but it may be taken as an indication of promise that both are developing as smoothly as can be expected after the recent world-wide upheaval.



THRIVING MANUFACTURING TOWNS OF NORTHERN BOHEMIA

Facing each other across the river Labe (Elbe) and connected by a chain bridge and two railway bridges lie Podmokly and Decín, more familiar as Bodenbach and Tetschen. The former, on the left bank, is an important railway junction and, like Decín, has an active trade on the Labe. Both towns have considerable manufactures, chief among which are cotton goods and chemicals.

It is not generally realized that Bohemia, under the former regime, produced over 80 per cent. of all the dual monarchy's manufactures. But a consideration of Bohemia's natural endowments as described above will make this fact sufficiently apparent. Take Austrian glass: virtually all of it came from Bohemia. This is an old and interesting industry, and you may still follow its development from earlier stages to the completeness of modern methods. The glass industry was originally distributed along the north-western border of Bohemia in the sandy districts. The earliest factories were located in the forests, as wood was used for the ovens. Later, factories moved down nearer to the great lines of communication as the use of coal became more general. The most modern factories use coal only. A typical factory which still retains some of the older traditions alongside modern methods is to be found in the Jablonce

(Gablonz) district. Here you may witness the extraordinary skill of the glass-blowers, and watch the meticulous care with which the pigmentation of glass is carried out, producing lovely shades of green and blue and imperial purple. As a special privilege you may see the oldest worker decorating a graceful goblet with a design in chased gold that recalls Italian influence and the long cultural connexion between this northern land of workers and thinkers and the Adriatic, via the Brenner and Ratisbon, and the ancient gateway in the Bohemian Forest that leads down to Domazlice (Taus), the distributing centre for goods that came from the north-west.

In this particular factory the working artist who fashions this golden design is the last of his line, and he declines to impart his secret to anyone. The factory's show-rooms are a source of pure delight in the marvels of that grace and beauty which Bohemian glass



BROAD AND BEAUTEOUS LANDSCAPE OF THE SUMAVA FOREST

The Sumava or Bohemian Forest in south-west Bohemia is full of beauty, change and interest and one of the favourite playgrounds of the Czechoslovaks. Both summer and winter holidays are often spent here and every effort is made to keep this lovely region unspoiled. The forests are ideal for picnics in hot weather and in winter the steep slopes afford excellent ski-ing and tobogganing.



KURHAUS OF JOHANNISBAD, FAMED FOR ITS CURATIVE WATERS

Hundreds of thousands of sick people from all parts of the world visit the Bohemian watering places yearly. The most famous is found to the west of the country, several other well known localities frequented to heal rheumatism, as, for example, Jablonec, or Johanniskbad, near Trutnov, in north-east Bohemia, with a warm mineral spring of 84° F.

has acquired through centuries of inspired work. But neither the show-rooms nor the number of workers engaged in producing the treasures there on view give any indication of the extensive employment provided by the by-products of the glass industry. In and about Jablonec there are some 60,000 people who, in their cottage homes, are busy turning out imitation precious stones, pearls, buttons, beads which furnish a Kafir lady's dress material, and bangles destined to adorn the houris of the East and return to Europe as souvenirs of foreign travel.

We have already mentioned porcelain and pottery, another old industry of Bohemia founded on the existence of kaolin, which is said to be one of the best of china clays, and is plentiful in the Karlovy Vary district where the factories are. Brewing and leather work are both the direct consequences of the primary occupations of this favoured land, and so, with qualifications, are the textile and iron and steel industries. These two, however, have to depend

largely on imported raw material; nevertheless they are growing industries, with an increasing margin for export after supplying local requirements in clothing, agricultural machinery and rolling stock.

With all these industries moving along the high road of progress, a large group of secondary occupations increases in importance. The political separation of Bohemia from Austria-Hungary, and the consequent concentration of the country's energies in its capital, transferred all the banking, transport and brokerage facilities from Vienna to Prague. The system employed in each case is that common to Central European business; it adapts itself to local conditions and is under more persistent governmental control than would be welcome in Great Britain. This control necessitates a considerable body of officials whose total salaries, modest as they are, must be a serious tax on industry. Again it has not yet proved expedient to limit the armed forces to such strength as would suffice for a

country less exposed to aggression. The mountain barriers which make of Bohemia a political entity are no protection against the terrors of the air. All this means a considerable aggregation of non-productives and involves a series of social problems

How Trade Passed by Bohemia

The historic trade route from the Mediterranean to the Baltic Sea, via the Roman Carnuntum of Marcus Aurelius at the confluence of the Morava with the Danube, led up the valley of the former, over the neck between the Sudetic and the western Beskid heights and down the valley of the Oder, or Odra, leaving Bohemia on one side. Saga suggests no such prehistoric highway through Bohemia as that taken by the Nibelungen on their road to destruction. There is, however, a faint tradition that Jews had a settlement on the site of Prague (Praha) before the Divine Tragedy on Golgotha took place. As there is frequently some truth underlying legend, it is quite conceivable that economic intercourse was established with Bohemia ere ever Czech and his tribe settled down here in the fifth or sixth century.

The configuration of the country suggests the obvious trade route and it is quite conceivable that Ratisbon was the focus of intercourse between the upper Danube basin and the Bohemian block.

Routes of Ancient Intercourse

The collecting centre in Bohemia would be Domazlice just across the pass over the Bohemian Forest. This gives us an obvious route across Bohemia to its north-eastern gate at Nachod. The route is marked by other natural distributing centres—cities on the Fall, Plzen as focus for the Ore Mountains, Budejovice (Budweis) for the southern heights, Kolin for the Bohemian-Moravian borderland, and Hradec Kralove (Königgrätz) for the Giant Mountains. It is at the latter place, by the way, that very interesting finds have been made of

prehistoric matter, not only animal remains but earthenware of a pattern strangely akin to that discovered on the lower reaches of the Volga.

A glance at the map shows how trade must concentrate on Prague, the ancient capital of Bohemia. That the routes marked out by nature are ever the best is proved by the fact that all the above named foci are increasing daily in importance now that Bohemia has once again insisted definitely on its own identity. Even under Austrian domination the old routes were maintained, enhanced by railways, albeit the latter follow too closely for modern conceptions of time-saving the many twists and turns of the waterways. The railways, however, are kept up to a high level of efficiency under the new administration, and the Bohemians, who have considerable engineering ability, encouraged by excellent facilities for learning more, may be trusted to get better value out of the transport system they inherited now that its control is entirely in their own hands. There are, by the way, very few privately owned railways.

Development of the Waterways

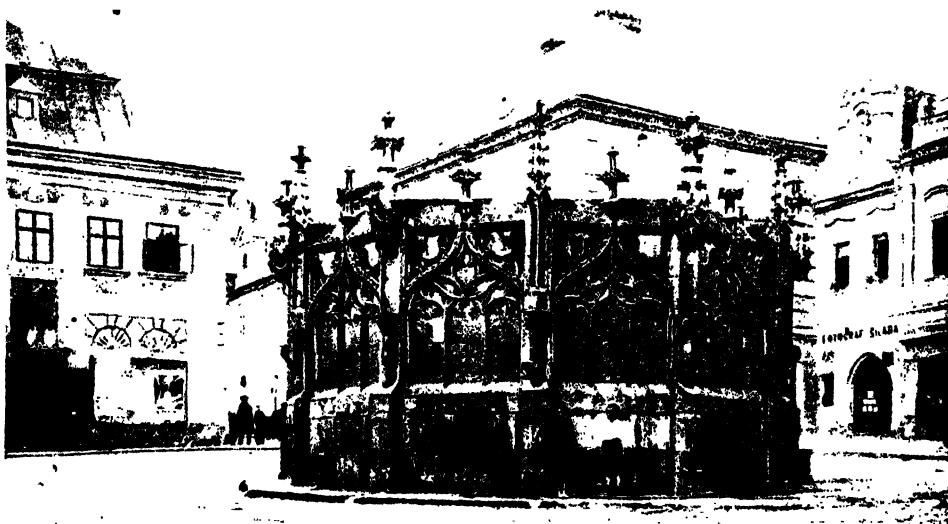
It is in the improvement of the Bohemian waterways that the engineers have shown particular energy and enterprise. The transport of goods and passengers on the Vltava and Labe offers an interesting study of the evolution of river traffic. There are few canals worth noting in Bohemia, but the country's two main streams have been canalised and regulated to carry a very considerable part of the import and export trade. The primitive raft of huge timbers coming down from the Bohemian Forest floats alongside large barges drawn by tugs of the most modern type. There are watershoots for the rafts, locks for the shipping. Prague is developing a large transshipping business and Usti, the port on the Labe only a few miles above the gateway into Germany, handles annually about 2,000,000 tons and a passenger traffic of 300,000 people. The voyage



MRS. Tutnell

RESIDENCE OF THE PRESIDENT OF THE CZECHOSLOVAK REPUBLIC

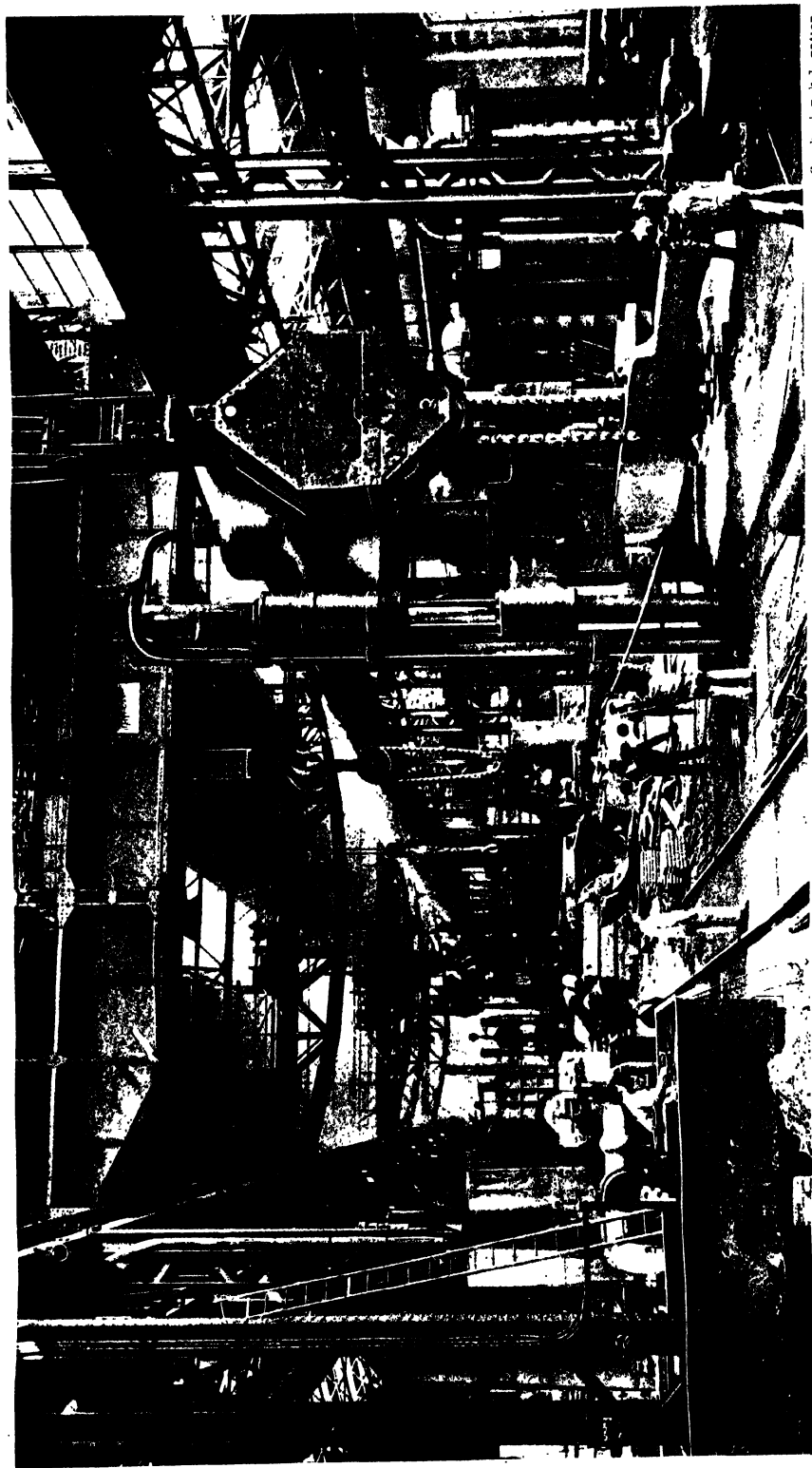
Zamek Lany, or the Castle of Lany, formerly belonging to the Fürstenberg family, was bought by the Czech nation and presented to President Masaryk who uses it as his country residence. It is a handsome building, conveniently situated about an hour's motor drive from Praha (Prague) and surrounded by park-like grounds. The interior has been modernised and is both beautiful and comfortable.



MRS. Tutnell

GOthic SANDSTONE FOUNTAIN IN THE MARKET-PLACE OF KUTNA HORA

Bohemia is rich in medieval architecture despite the fact that during the religious wars of the fifteenth and seventeenth centuries most of the Gothic structures were destroyed. Kutna Hora, formerly known as Kuttenberg, an ancient silver-mining centre, contains many fine specimens of old architectural styles, chief among which is the cathedral of S. Barbara and not least this fifteenth century fountain



Czechoslovak Legation

IN THE HEAVY FORGING DEPARTMENT OF A FAMOUS MANUFACTURING FIRM AT PILSEN

Until the end of 1918 the Skoda works situated at Pilsen, Bohemia, in Austrian territory, were one of the world's greatest arsenals and the largest steel works in Central Europe. The chief departments included the ordnance factory with a shell-filling plant and proof-range, forges for light and heavy work, railway-material plant, steel works, iron and metal foundries, boiler-building shops, bridge-building plant and general engineering works. But a very small factory in 1859, the Skoda works developed with amazing rapidity and their area in 1913, excluding coal-mines and proving-range for guns, was 360 acres.

from Prague to the North Sea is only a matter of four or five days—a distance of close on 500 miles—and you may travel by water from the capital of Bohemia to that of the United States of America by changing at Hamburg! The latest development in international communications is also progressing and Prague is linked up by means of an aerial service with Paris and with the capitals of kindred Slavonic states.

But aerial transport, however convenient to the time-saving business man and instructive to the geographer, gives to neither of these an opportunity of studying the cities, towns and villages of a country. Bohemia offers much of interest in this respect. Roughly speaking, the cities show marks of foreign influence; the towns, such as those old distributing centres on the Fall, are more of the open market type, and the villages as a rule are the obvious descendants of group settlements; isolated farmsteads are rare.

The general aspect of the country then, apart from the mining and industrial centres, is that of rolling plains and arable land under the forest edges, hedgeless, the boundaries being marked by cor- tones, with here and there

carefully preserved woods. At intervals are groups of whitewashed homesteads surmounted by the church tower with a bulbous cupola, probably a legacy from the East. Fruit trees flank the roads and cease regretfully close outside the towns. Of these there are two distinct types, the one an ancient group settlement risen to the importance of a distributing centre by its geographical position, the other a strategic point fortified in the Middle Ages and still showing traces of old walls and broken towers. The cities, at least externally, have a more international continental look, but on closer inspection will prove of interest to the archaeologist and probably to the ethnologist as well. The modern note is growing more and more insistent, and the old Bohemian homestead, with timbered first storey and high-pitched shingled roof, is becoming rarer every year. Nevertheless the countryside has a definite character of its own, which is only to be expected in a land marked off and set apart by enclosing mountains. There is an air of sound health and steady purpose about this land of Bohemia, and it offers an excellent study in the relations between man and his natural surroundings.

BOHEMIA: GEOGRAPHICAL SUMMARY

Natural Divisions. Probably the most precisely marked physical unit in any continent—a basin bounded by four sections of the pre-Alpine block mountains of Western Europe; the basin of the Labe (Elbe) and Vltava (Moldau).

Climate and Vegetation. Transitional in climate between the moist, mild winter type due to the westerlies from the Atlantic Ocean, and the extreme continental type of Russia. Naturally a forest; like the neighbouring European plain, trees clothe the uplands and farquing, chiefly for the hardy cereals and root crops, occupies the land cleared of forest.

Products. Minerals found in the Ore Mountains belong to the copper, silver, lead sequence. Coal occurs, as in Belgium and Silesia, in relation to the slopes of the block mountains. Kaolin from granite and sandstone give rise to notable artistic work in porcelain and glass respectively. Beet sugar, beer (from the barley), chemicals and textiles, as well as metal

goods—Skoda was formerly the arsenal of Austria-Hungary—give occasion for a dense population in the lower northern half of the country.

Communications. Formerly, as part of Austria-Hungary, much traffic went south-east to the basin of Vienna; now, as the predominant section of Czechoslovakia, railway communications are gathering towards the capital, Prague. Without a sea coast the Bohemians have gained trading privileges at Hamburg, to which the Labe (Elbe) navigation and the railways lead. If ever the dream of an inland waterway for ocean-going vessels from the North Sea to the Black Sea is realized, Berlin, Prague, Vienna and Belgrade will become centres of shipping.

Outlook. Bohemia is a unit with an awkward political extension eastwards. Moravia, Slovakia and Ruthenia in turn are less valuable, and, for the moment, the more productive and more prosperous Bohemia, with more definitely Western ideas, is saddled with less capable partners.



L. D. Giannetti

RED ROOFS AMONG THE ROCKS: WHERE LA PAZ FILLS A HOLLOW OF THE CORDILLERA REAL

La Paz lies in the bottom of a rugged rock basin 11,000 feet deep among the giant peaks of that great mountain chain, the Cordillera Real. It is Bolivia's commercial capital with a population of over 80,000 and is the terminus of a railway climbing up over the frontier 12,000 feet from the Chilean port of Arica. It is also in railway communication with Antofagasta, another Chilean port, and via Lake Titicaca with Arequipa in Peru. The railway to La Paz goes up farther than the lip of this basin, an electric train carrying passengers down the slope to the city. A feature of this view is the number of church towers that stand up among the roofs.

BOLIVIA

Bleak Tablelands & Tropic Valleys

by A. V. L. Guise

Author of "Six Years in Bolivia"

WHEN the rest of the world had been completed, materials of every description were left over. These were pieced together to make a territory now known as Bolivia, nature's crazy-quilt. Snow-mountains and volcanoes, great lakes, deserts, dense forest and grassy plains, cataracts and swamps, zones of arctic winter and regions of torrid heat—all these are to be found within its confines. In short, it is a country whose features seem fantastically mixed.

Once part of the great Inca empire, Bolivia was included in the vice-kingdom of Peru under the name of Alto Peru until 1809, when, as a result of the War of Independence, it became a separate state. Its limits were ill-defined, and a series of disputes with its neighbours in regard to frontiers have invariably resulted in loss of territory to itself. Despite these severe and repeated amputations, Bolivia remains the third largest state of the South American continent, with an estimated area of 700,000 square miles.

Boundaries of Forest, Mountain and River

Her seaboard lost to Chile as a result of the War of the Pacific, Bolivia is now separated from the Pacific Ocean by the Western Andes range and a strip of waterless desert. The frontier with Peru crosses Lake Titicaca and the broken country north of the lake. Tropical forests, only partly explored, bound Bolivia on the north and east, the eastern boundaries with Brazil and Paraguay being formed by great rivers flowing northward to the Amazon and southward to the River Plate (Rio de la Plata). The Pilcomayo river, bordered by pampas, swamps and woodland,

traces part of the Argentine frontier, and the remainder of the southern limits lies in mountainous country and the arid Atacama Plateau. Her losses to neighbouring states of large and valuable territories were the price of Bolivia's future prosperity, for with the £3,000,000 received in compensation from Chile and Brazil, the government was able to begin the construction of the railways for lack of which the country remained socially and economically in the dark ages.

Blazing Desert of Rock and Sand

Western Bolivia is occupied by a high plateau, the "Altiplanicie," hedged by the parallel ranges of the Andean cordilleras, highlands that comprise roughly two-fifths of the total area of the country. The tableland, once the site of a great lake, stretches from Lake Titicaca in the north to the Atacama Plateau in the south, a distance of 465 miles, at an average altitude of over 12,000 feet above sea-level.

Monotonous and treeless, the Altiplanicie is a harsh, inhospitable region over which the spirit of desolation seems to brood, the playground of whirling "sand devils," bordered by horizons floating dizzily in mid-air. The scanty vegetation that dots the sandy wastes of the north disappears altogether from the salt-encrusted desert of Lipez. Masses of granite jut from the flanks of the gaunt, brown hills that edge the plain, bones that have broken through their thin covering.

The only river of any importance on the plateau is the duck-haunted Desaguadero, which carries the overflow from Lake Titicaca to Lake Poopó.



BOLIVIA, SHUT OFF BY THE ANDES FROM A PACIFIC SEABOARD

In the south the Rio Lipéz fights a losing battle against rapid evaporation and thirsty sands, and dies in a salty marsh. The watercourses that scar the arid plain are mostly dry channels, except for a brief space of time when the waters of a heavy rain-storm are being carried off to make a quagmire in some depression.

At the northern end of the plateau lies Lake Titicaca at an altitude of 13,000 feet, one of the highest inland seas in the world, and certainly the highest on which large steamers ply. Its pale blue, snow-fed waters edged with tall reeds resemble a great mirror of burnished steel set in a frame of vivid green. Barren, copper-hued hills flank its western shore, and on the east rise the precipitous slopes of the gigantic Cordillera Real towering high into the region of perpetual snow.

Lordly Mount Illampu (Sorata), the "Great Father," its summit 21,500 feet above the sea, stands at the northern end of this cordillera, and majestic Illimani, the "Great Mother," guards the southern extremity—two mountains that the Indian of the Altiplanicie holds sacred. In beauty and grandeur the Cordillera Real is perhaps unsurpassed by any other mountain range. Viewed at dawn from a lake steamer these mountains present a spectacle that cannot fade from the memory of him who has seen it.

Volcanoes occur in both the Eastern Andes or Cordillera Real and in the Western Andes or Cordillera Occidental, more especially in the latter range. The snow-capped cone of Mount Sajama may be seen across the plain for more than 100 miles. Though most of

these volcanoes are extinct, there are a few, such as Mount San Pedro, from which vapour still issues. None of them, however, has shown any violent sign of activity within the last five hundred years.

The spurs and mountain ranges that descend from the eastern slopes of the Cordillera Real form an intermediate zone, a rugged region of virgin forests and deep, fertile valleys watered by countless streams and torrents that grow into great tributaries of the River Plate and the Amazon. This region is divided into the "Quebrada," the broken country of forests that occupies the north; the fertile slopes of the "Yungas," the cleared forest land near the eastern base of the Cordillera Real; and the wide, smiling valleys of Cochabamba and Tarija to the south.

Gradually the hills diminish as they roll eastward, till they subside into the

vast alluvial plains of the low country. Hemmed in by the forests of the northern and eastern borders, these plains are for the most part grassy pampas that extend down to the Pilcomayo river. South-eastern Bolivia lies so low that some of its sluggish streams forget to flow and form great swamps; during the rainy season considerable areas of pasture land in this region are flooded.

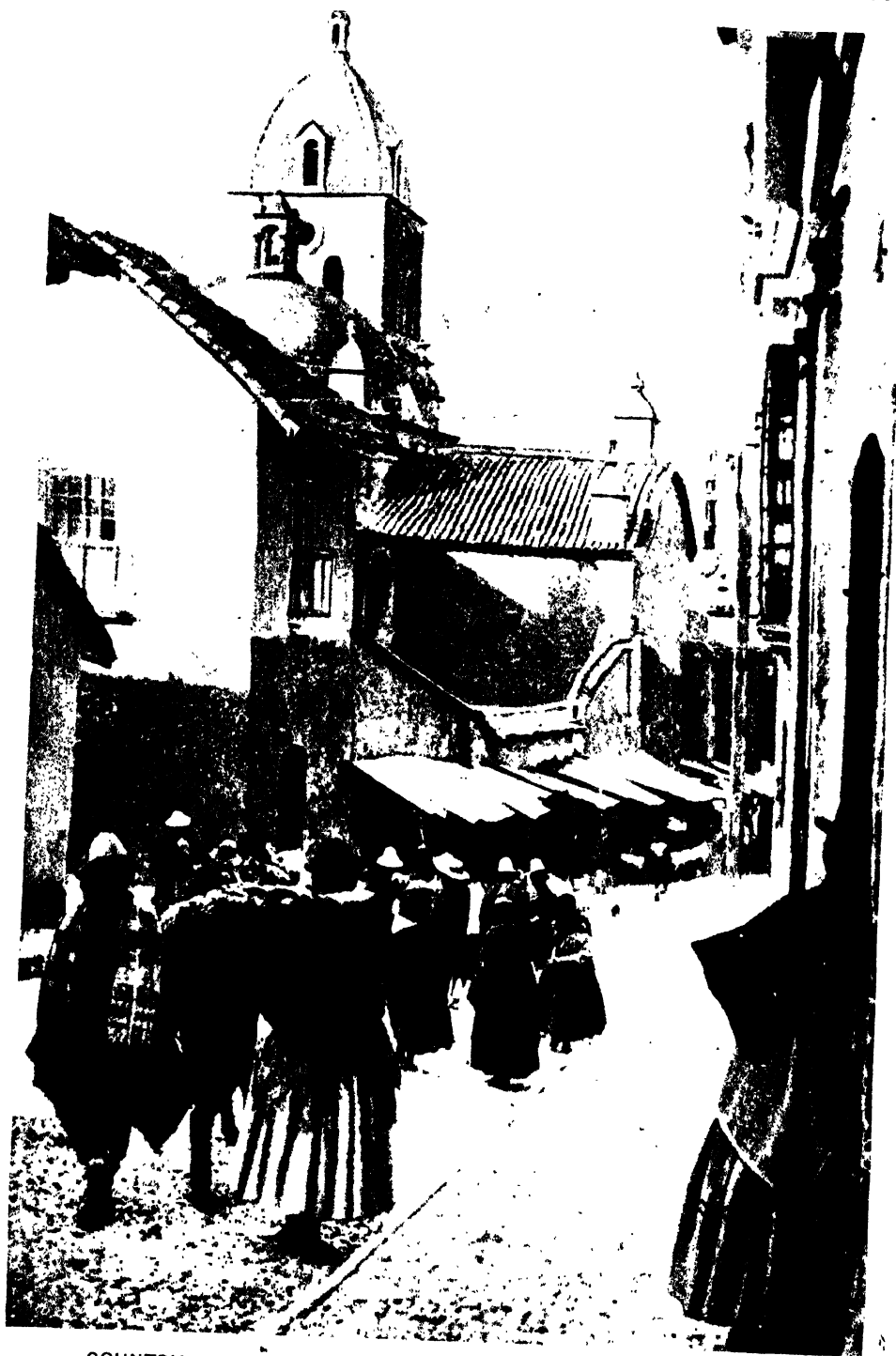
The pampas of northern Santa Cruz and the El Beni province, on the other hand, are well drained, and lie above flood level. Across these plains flow noble streams whose waters help to swell the Amazon. Of these rivers the most important are the Beni, the Mamoré and the Guaporé, which join to form the Madeira.

Since Bolivia lies within the tropics, the climate of the eastern section varies from pleasantly hot in the south to torrid in the north, with the usual



IN THE PASEO DE COLON, MAIN STREET OF THE CITY OF PEACE

La Paz, originally called Nuestra Señora de La Paz or our Lady of Peace, is built so that the streets cross each other at right angles forming the buildings into roughly quadrilateral blocks. In this pleasant boulevard are the houses of the principal inhabitants and the premises of the foreign legations. Most of the other thoroughfares are narrow, but the houses are often brightly painted



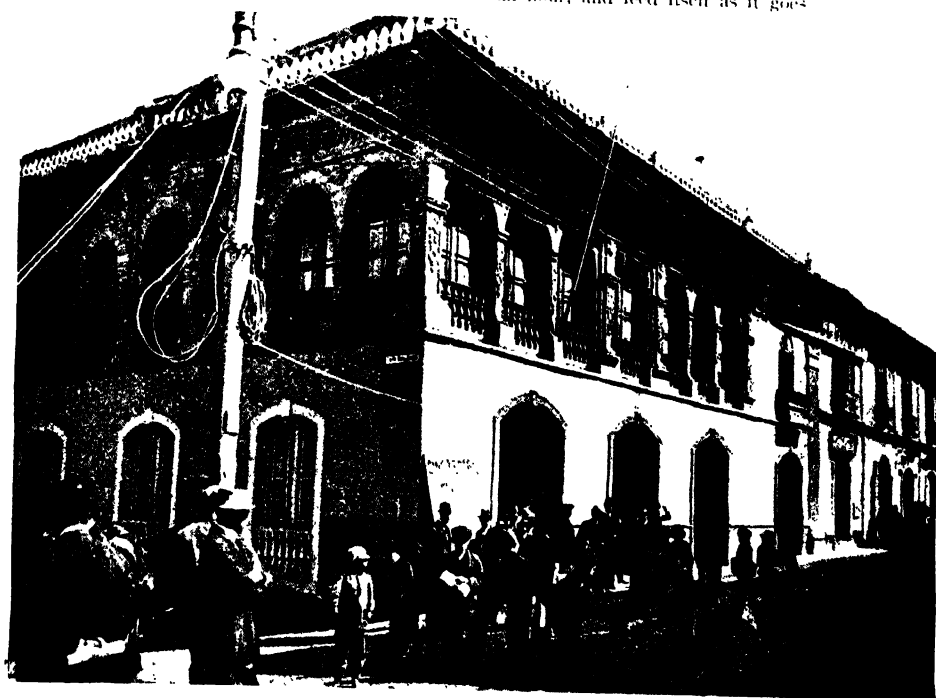
COUNTRY PRODUCE TAKEN TO LA PAZ MARKETS BY INDIANS

Bolivia's commercial capital has busy vegetable and live-stock markets. These are largely supplied by the Indians of the neighbourhood. Maize is one of the staple foods and frozen potatoes with the skins removed before refrigeration are sold in great quantities. Sugar plantations in the lower altitudes yield rum and cakes of brown sugar, both eagerly consumed by the Indians.



DROVE OF LLAMAS, BOLIVIA'S CHIEF BEASTS OF BURDEN

Llamas are driven about the streets of La Paz in an easy, casual fashion and the beasts themselves go along at an unhurried gait, holding up the traffic, especially trams. The llama's great asset is its ability to endure the rarefied air of the great elevations in the neighbourhood which exhaust horses. It can keep up a steady four miles an hour, and feed itself as it goes.



IN THE CHIEF SQUARE OF LA PAZ, THE PLAZA DEL 16 JULIO

Sixteenth of July Square commemorates the first declaration of Bolivia against the domination of Spain in 1809. The square is the largest in La Paz and contains the Grand Hotel Guibert, the University, the legislative, government and episcopal palaces and the cathedral, whose building was begun in the prosperous days of the Potosi silver mines though its completion has long been delayed.



LOOKING FROM A BRIDGE OVER ONE OF THE BOULDER-STREWN TRIBUTARIES OF THE RIVER BENI
 On the road to Sorata, a mountain town 57 miles north-west of La Paz, one crosses on mule-back this rock-choked torrent which runs down past Mount Sorata to join, eventually, the great river Beni, which is itself a tributary of the Amazon. The scenery round the Sorata heights is remarkable even in Bolivia for grandeur, the streams carving their way through steep-sided valleys which slope down from the snowy peaks lost in the clouds thousands of feet above. The vegetation varies with the altitude from that of the Arctic to that of the subtropical which includes rubber-trees.

alternations of dry and wet seasons. During the wet season, which lasts from December to the end of April, the rains fall heavily and continuously for many days at a time; all the streams are in spate and laden with tree-trunks that come to anchor where the rivers broaden. Five months of cloudless skies are followed by an intermediate stage of violent thunderstorms and squalls; cyclones scar the forests with long lanes of uprooted trees.

The tropical climate is not confined to the plains, but includes the Quebrada and the Yungas. Though the open plains of the middle and southern lowlands are comparatively healthy, in the jungle-covered north malaria fever is rife. The natives of the forests seem to suffer little, if at all, from the disease, but the Indians of the Altiplanicie who venture into these parts fall easy victims to it.

The subtropical region of valleys that lies between 5,000 and 9,000 feet above sea-level, known as "Valle," possesses a delightful climate, almost a perpetual

summer. There is, perhaps, no finer climate in South America than that of the province of Cochabamba, which lies at an altitude of 8,000 to 10,000 feet. The rainfall is moderate, and the temperature varies but little throughout the year, the mean being 60° F.

At 11,000 feet begins the "Puna," a zone that embraces the Altiplanicie. Though harsh, the climate of the Puna is very healthy. The air is so thin, keen and dry, that one rarely feels really warm. The direct rays of the midday sun may scorch, but in the shade it is chilly or even cold. The changes of temperature throughout the year are not great, but the variations within twenty-four hours may be anything between 14° and 25° F. The mean temperature of the Puna is about 54° F.

Sharp frosts, icy winds and occasional snowfalls mark the winter months of May, June and July. These are succeeded by a rather warmer period of gales. November and December are the season of terrific thunderstorms accompanied by rain and hail. During the



AMONG THE BROKEN RIDGES OF THE CORDILLERA REAL

Standing up above the great Lake Titicaca in whose surface their snow-white peaks are some times mirrored are the great masses of a section of the Cordillera Real. The highest point in the district is Ancohuma, the tallest of Mount Sorata's twin peaks which stab into the clouds and emerge beyond them 21,500 feet above the sea. All traffic about the range is borne on llama or mule-back



TIN-MINE WORKINGS ON A TRIBUTARY OF THE RIVER DESAGUADERO NEAR THE PERUVIAN FRONTIER
 A great part of Lake Titicaca lies within Peru, the boundary touching the north-eastern and south-western corners of the great expanse of water with its ports and steamer routes. From its southern end runs this river, the Desaguadero. It flows in a south-easterly direction some 190 miles to Lake Poopo. The photograph shows a tributary which has been dammed to work a tin-mine plant. The extraordinary clarity of the fold-marks in the mountain to the left is very striking; these marks were caused by the settling process which went on in early geologic times when the Cordillera was being formed.

wet months of January and February the rains are gentle, and last perhaps for a day and a night followed by an interval of several days of fine weather. There remains but a brief space of time for the pleasantest part of the year when rain, wind and snow retire to renew their forces for next season's campaign.

In the "Puna Brava" (fierce puna), the mountainous zone between the plain and the snowline, 17,500 feet high, the conditions are still more severe; the mean temperature at 15,000 feet is only 43°. This forbidding region of mournful solitudes and rarefied air is abandoned to the Aymara Indian and the miner. Nothing grows here but the clumps of dry and spiky paja or bunchgrass that tints the hills a yellowish brown and maintains herds of llamas, scraggy sheep and dispirited burros. Here are found the shy vicuña, the rabbit-like viscacha and the red-shanked plover, while overhead swings the condor. The chin-chilla is native to the western cordillera.

The plateau is scarcely better provided with natural vegetation than are the hills. Besides paja there is nothing but occasional patches of tola, a low shrub, and a curious woodlike moss named yareta. These two plants are the only fuels the Altaplanicie affords, consequently the humble Indian of the plain and the well-to-do white of the town alike must rely on dried llama-droppings for the fuel to cook their food. The traveller who, bestriding his



TRAIL OVER THE MIGHTY QUIMZA CRUZ

About 12 miles west of the town of Inquisivi, the 18,366-foot summit of Quimza Cruz towers above a saddle in the Cordillera Real over which a trail zigzags, ever in danger of obliteration by snow or of concealment by cloud or mist

mule, takes the rough trail that leads across the Cordillera Real to the Yungas country beyond, is well repaid for the fatigues of the excursion. Soon he will be able to do the journey by rail, but we shall take him by the less easy route, since it is he who will have to bear the discomfort.

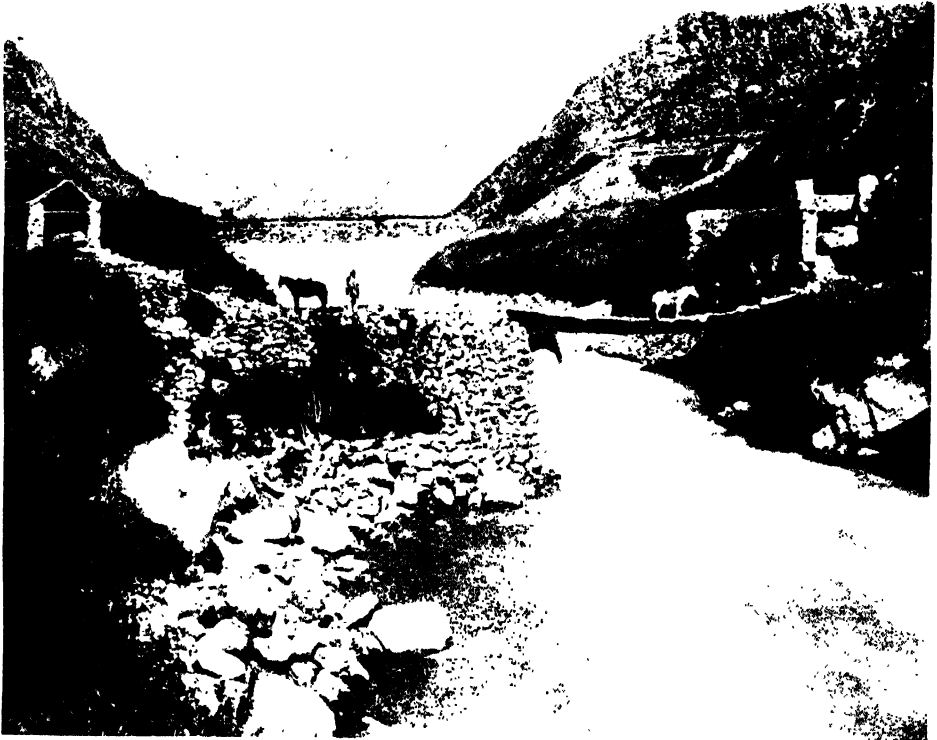
The track that has brought him through the pass guarded by gloomy crags of shale zigzags down to the head of a deep gorge through which



H. J. Kitcher

BOLIVIA'S STONEHENGE: PANORAMA OF TIWANACO, RUINED CAPITAL OF AN ANCIENT CIVILIZATION

About 38 miles south-west of La Paz are the ruins of Tiwanaco, an ancient city that flourished as a center of pre-Inca civilization. To-day its outstanding feature is this rectangular series of megalithic approaches by a line of gigantic monolithic steps. The precious stones of the ruins have been used as ballast for the railway that passes close by, and it was in a vain attempt to arrest these depredations that the Government erected the unfinished building seen above, to be a museum of Tiwanaco's antiquities. Lake Titicaca lies just outside the picture, on the left.



American Field Museum

GIDDY CROSSING OF A ROARING ANDES TORRENT

By building a rough pier of unmortised stones and laying the trunks of a couple of trees across the gap a bridge is completed save for the transverse slats. The mountain ponies and the Indians are used to these hazardous passages, though they are a testimony to the exiguous traffic over Bolivia's mountain routes. On one side are relics of an older structure, perhaps of Inca or Aymara building

tumbles a snow-born torrent. Presently a thick carpet of moss is spread beside the path. Shrubs appear, rapidly growing taller and thicker as the valley descends. That evening, when the traveller dismounts at the inn of La Rinconada, he has entered into the zone of trees.

From this point he scrambles up the flank of a high ridge to a knife-edge pass where tree-ferns and myrtles grow. The rocky trail, clinging to the precipitous sides of a deep ravine and ever descending, now enters into a semi-tropical region. Tall trees and lofty palms shade a path bordered by begonias and beautiful ferns. Nature has sprung into activity. Parrakeets and birds of brilliant plumage dart among the trees, monkeys caper in the branches, and the murmur of waterfall and rivulet fills the moist, warm air.

Where the long ravine debouches into a broader valley, stands the inn of Sandillani. Here are found the first signs of cultivation—a few unkempt gardens where cabbages and onions struggle with the weeds that threaten to choke them. Dropping into the valley, the trail passes through an Indian hamlet or two whose inhabitants are lounging in the doorways, past orange and banana groves hedged with coffee-trees gay with scarlet berries. Indian "fleteros" of the Puna are spinning wool yarn as they trudge behind their herds of llamas laden with produce for the markets of La Paz.

Twelve miles of this road brings the traveller to the foot of a hill on the crest of which, more than 2,000 feet above the valley, is perched the old Spanish stronghold of Coroico, the capital of the Yungas province.



VICUNA A PRIZED WOOL-BEARER

Belonging to the camel family, the llama, the vicuña, are the most characteristic Bolivian animals. The vicuña's fine wool is ven skilfully by the natives

Our traveller will doubtless toil up the rugged path that leads to the town, past extensive and well tended fields planted with orderly rows of coca shrubs, and past numberless drying-floors spread with cocoa and coffee beans and the precious coca leaves.

To the north and east of the Yungas lie the dense and tangled forests that stretch across northern Bolivia, filled with wild rubber, cedar, mahogany, palms and many beautiful woods for cabinet work. On the crests of the high ridges grow the quina trees for whose silvery bark men used to risk death from fever and starvation that the world might be supplied with quinine. These forests teem with wild life. Jaguars and panthers share this vast domain with tapirs, deer, ant-eaters and droves of peccaries, while

the republic of the tree-tops is inhabited by monkeys large and small, vampire bats, gaudy parrots, toucans and innumerable other birds.

Reptiles abound — boa-constrictors, deadly tree-snakes and iguana lizards, and in the rivers alligators and turtles. Butterflies of extravagant size and colouring jewel the river banks. But among the insects that make these parts a paradise for the entomologist are many bloodthirsty species, which by their numbers and viciousness make the forest regions a purgatory to the ordinary man.

On the wide pampas of the lowlands, dotted with groves of trees like islands in seas of grass, roam herds of wild cattle, descendants of domestic cattle imported during the early days of the settlement of the River Plate. It is

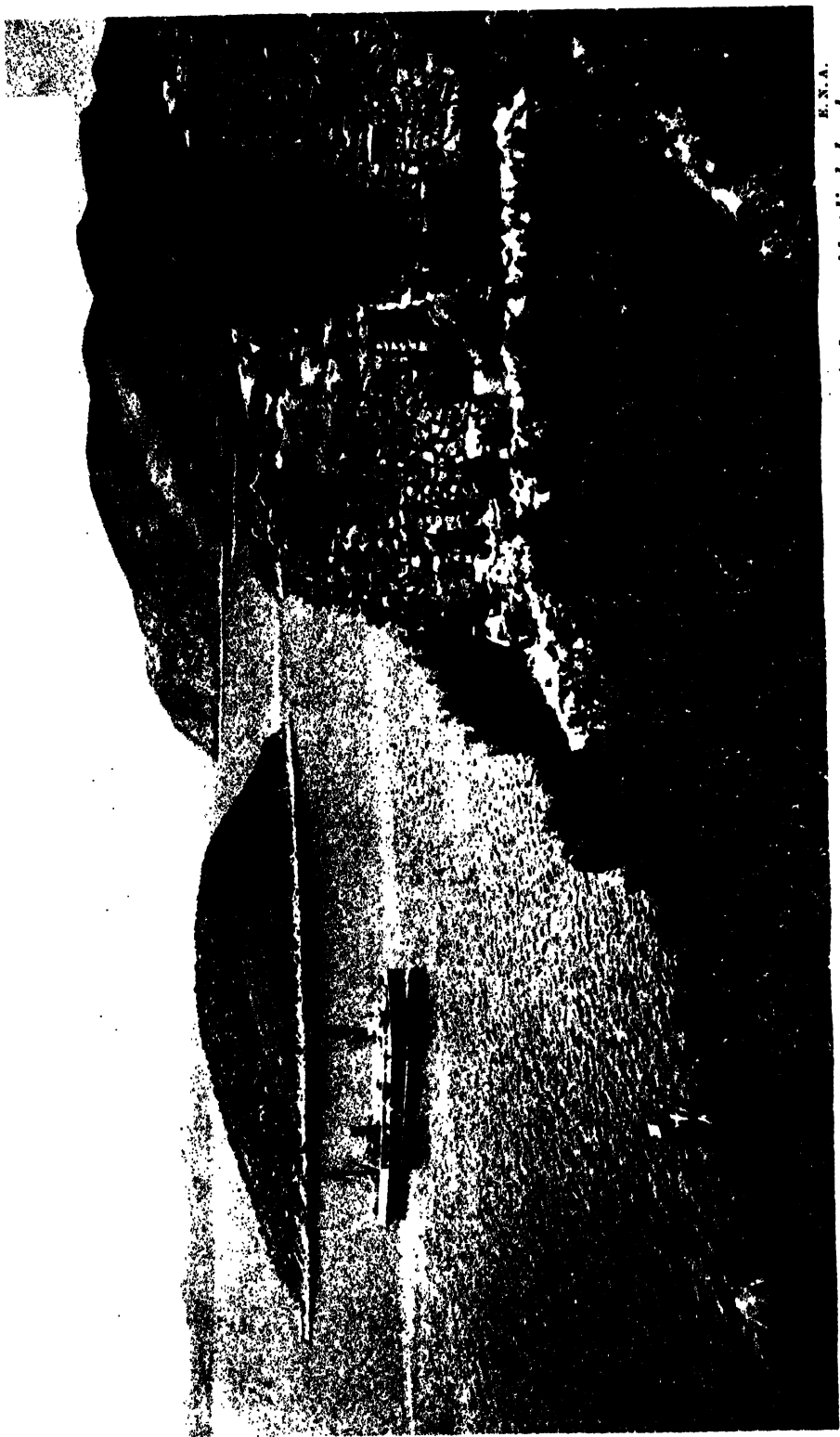


ALPACA IN THE ANDEAN HEIGHTS

The alpaca, also highly prized for its wool, is reared exclusively by the native Indians of Bolivia, who alone understand the habits of these interesting animals



L. D. (Harmond)
BOLIVIA. Concentrated in the deep gorge of the Chuquiapo, La Paz, Bolivia's capital, has many streets like this scaling the enclosing steeps

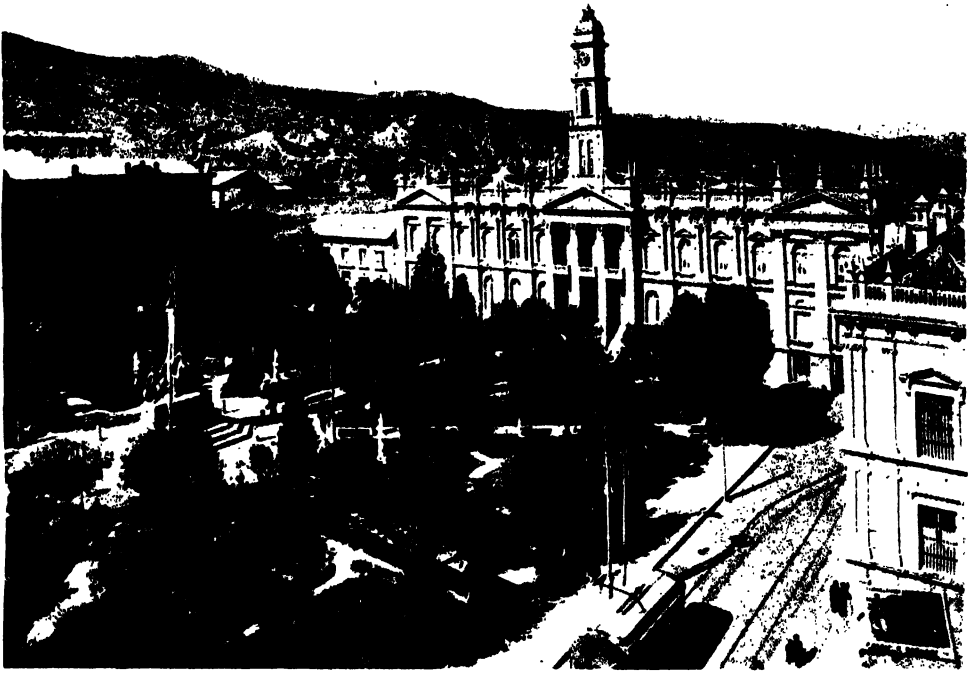


E. X. A.

BOLIVIA. *Lake Titicaca, 13,000 feet above sea-level, is the highest inland sea in the world plied by large steamers. In its mountain-girt waters the Island of the Moon was held sacred by the Inca sun-worshippers.*



BOLIVIA. Built on a peninsula jutting out into Lake Titicaca, Copacabana is famous for the richly jewelled image of the Virgin in the cathedral. The annual festival brings thousands of Indians to the town



This imposing building is the Legislative Palace in the Plaza del 16 Julio in La Paz. Before it stands a statue of P. D. Murillo



E. N. A.

BOLIVIA. Planted with trees and set with monuments including this obelisk to General Ballivian, the fine Alameda is the glory of La Paz



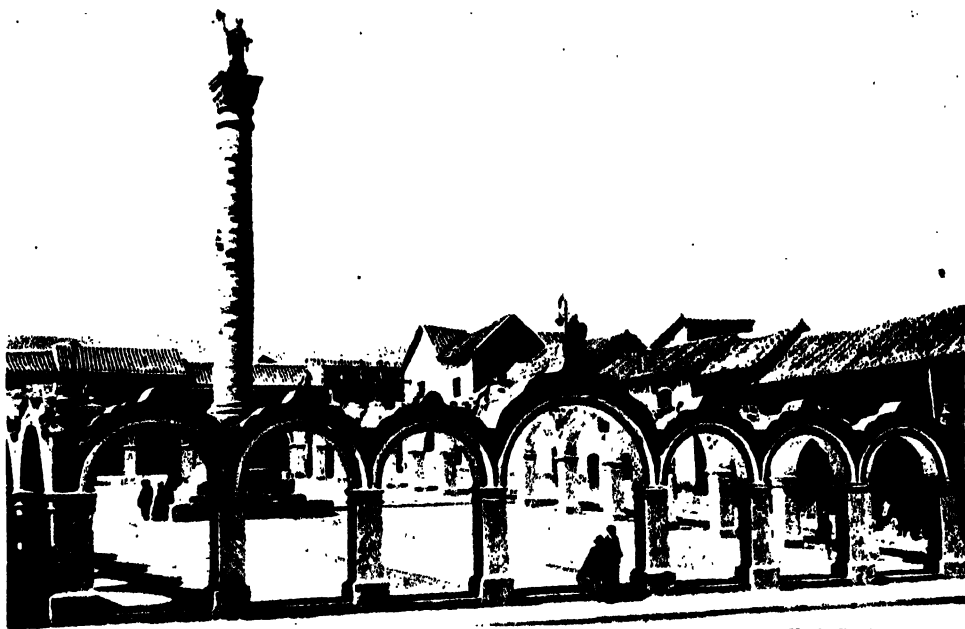
Down whichever sheer street of La Paz one looks the eye sees over the roofs in its valley portion the enclosing walls of the Cordillera

E. N. A.



BOLIVIA. La Paz is fast being modernised, but the old local colour still survives in the houses and cholo dwellers in the poorer quarters

E. N. A.



H. J. Kitchen

Rising from the central square of Potosí this stately column of Liberty commemorates the emancipation of Bolivia from Spanish rule



H. J. Kitchen

BOLIVIA. Built 13,600 feet up on the side of its rich parent silver mountain, Potosí is one of the highest inhabited places in the world



As a mining and a railway centre in Bolivia, Oruro is a busy town. Its open-air market is always thronged with cholos and with llamas

H. J. Kitchen



BOLIVIA. Llamas are the usual beasts of burden in the country. They carry loads of 200 lb. and can go a long time without food

H. J. Kitchen



E. N. A.

BOLIVIA. Viewed from the air La Paz makes a wonderful picture set in its jade-green highland valley ringed with mountains. High over all towers the majestic peak of Illimani clothed in perpetual snow.

estimated that a quarter of a million ownerless cattle are to-day grazing on the great prairies of Bolivia.

Another creature to be found on these pampas is the rhea or South American ostrich. The plumes of this bird are in great request by the Indians of the Puna; gaily dyed, they are made into the enormous headdresses that are worn on certain feast days.

It was the Incas who gave the name "Chaco," or hunting ground, to a huge territory that is now split up between Bolivia, Paraguay and the Argentina. The Gran Chaco of Bolivia comprises the south-eastern part of the country from the hills of Tarija to the Paraguay river, a region of extensive grassy plains, woodlands, swamps and forests filled with valuable timber, notably quebracho, which yields an extract used for tanning. It remains to-day the largest of the many hostile and unexplored tracts of country in the republic.

Agriculturally, Bolivia is still in a prehistoric age. The Indian of the high plateau, morose and grudging as the land in which he dwells, tills or rather scratches the soil with primitive implements of wood. Fertilisers he never uses, and the crops he raises are as scanty as the labour he expends on them. The produce of the Puna consists chiefly of barley, the straw of which is used as fodder for mules, quinoa, a small grain eaten like porridge, and potatoes, the Indian's staple food.



H. J. Kitchin

ANTIQUE HOUSES IN A LA PAZ SIDE STREET

With windows so near the street all glass has to be protected by bars. The steep slope on which the house is built is a common feature of most of the narrow transverse roads that drop precipitously down to the Rio Grande de La Paz.

That the native of the tropical, or semi-tropical, zone has little use for work is not surprising, for nature works for him with the least possible assistance, and rewards his sloth with prodigal gifts. The valleys of Cochabamba are capable of producing quantities of wheat and maize sufficient to support a large population. All manner of fruits peculiar to semi-tropical and temperate climes—oranges, custard-

apples, figs, grapes and pears—grow luxuriantly. The soils of Santa Cruz and the Yungas, rich in decomposed vegetable matter, yield coffee and cocoa of the finest quality, sugar-cane for the making of raw sugar and rum, plantains that take the place of bread, mandioca, tobacco, cotton of long staple, and a large variety of fruits.

It is to the cultivation of coca that most care is given, the leaves of this plant being the chief source of revenue in the Yungas. The coca of this region has a particularly high cocaine content, and commands a good price in foreign markets. But even in this case the expenditure of much labour is not required. Provided that the rows of shrubs are kept free from weeds, three crops of leaves may be picked yearly.

The vast though undeveloped wealth of temperate and tropical Bolivia has its counterpart in the incalculable mineral resources of the highlands. From the ancient gold workings of Ingenio at the mouth of the Sorata pass to the tin-mines of Uyuni, the hills of the Altiplanicie are being made to yield their treasures; tin, copper, silver, gold, wolfram and bismuth are

being mined in increasing quantities. It is the Cordillera Real and its branch mountain ranges that are richest in minerals, the lodes lying between 11,000 and 16,000 feet above sea-level.

In this country silver is usually found in conjunction with tin. It is the latter metal that is chiefly mined at the present day. Though the ground has as yet scarcely been scratched, Bolivia now produces 25 per cent. of the world's tin. The mining industry, however, is still handicapped by the lack of transport, a condition that is being ameliorated by the construction of branches from the main railway lines to the principal mining districts. Many ore belts are lying untouched because of the transport difficulty. With increased railway facilities, Bolivia will head the list of the tin-producing countries of the world, and the output of other metals will be greatly increased.

The lowlands are not without their mineral resources. Gold is found in various places from one end of eastern Bolivia to the other. The exploitation of this metal is, however, almost neglected except by the Indians who wash the alluvial deposits in a desultory



H. J. Kitchen

HOSTELRY OF OLD POTOSI, THIRTEEN THOUSAND FEET ABOVE THE SEA
In this cobbled courtyard with its fountain, the curious carved countenance over the porch, the rough red tiles and the outside passage to the bedrooms, one might think oneself in a posada of old Spain. Instead this is Potosi, in whose vicinity it is estimated that more than £500,000,000 of silver has been mined. The population has dwindled to a sixth of what it was in the seventeenth century



VAST SLAG HEAPS AND WORKINGS OF ONE OF THE ORURO TIN MINES

Oruro has the smallest area, 20,600 square miles, of all the eight provinces of Bolivia. It lies in the west centre of the country between Lakes Titicaca and Poopó and has had an annual tin export worth over £2,000,000. The chief mines are in the eastern highlands of the Cordillera Occidental and at Oruro is the central point of the industry. Many of the mines were first worked for silver

fashion. Iron ore has been discovered, and anthracite; but the chief buried treasure of the plains is petroleum. For many years the natives of some districts have used for lighting petroleum that has oozed up to the surface. Indications suggest that the departments of Chuquisaca, Santa Cruz and Caupolicán will prove rich in oil.

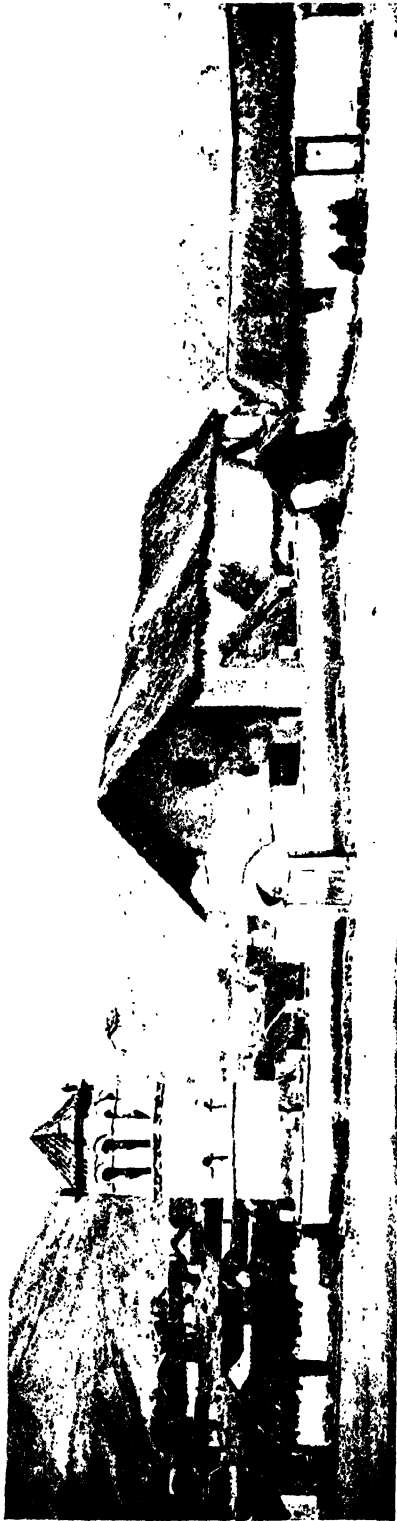
Agriculture is the chief occupation of the Indian population, but it is conducted on lines so deplorably bad that the produce of the country is insufficient to its needs. Of Bolivia's 4,000,000 inhabitants only one-fifth lives in the fertile zones below the altitude of 10,000 feet, and this small fraction grows little more foodstuffs than it requires for its own use.

Second in importance to mining is the collection of rubber in the forests of the north. The rubber is of high grade and until recently the industry was flourishing. The competition of plantation rubber, however, has made the

collecting of the wild variety unprofitable and the El Beni region has fallen on evil days.

Of manufactures, Bolivia can boast but few. In the town of Santa Cruz de la Sierra are a few rum distilleries and flour mills, and in La Paz an English company operates a factory for the making of matches, which are a state monopoly. Probably the most successful commercial enterprises are the breweries of La Paz and Oruro, which make excellent beer under the supervision of German brewers.

Roads worthy of the name do not exist in the country. Before the coming of the railroads, passenger coaches and carts lurched and bumped across the sandy plain from Oruro to La Paz, or over a rough and hilly track to Cochabamba. Such means are still used for the carrying of passengers and mails across the gap of 200 miles between the railway systems of southern Bolivia and northern Argentina.



PORCO, THE SMALL TOWN NEAR THE SITE OF THE FIRST SPANISH SILVER MINE IN BOLIVIA

Near this little mountain township, which is some 20 miles south-west of Potosí, the Spaniards, after their conquest of Peru and the neighbouring lands, worked their first silver mine. The site of the mine is adjacent to a great knot 10,000 feet high in the Cordillera. Note the campanile, or bell tower, detached from the church

To be drawn by galloping mules, urged by the whip of a cursing driver and the stones flung by Indian runners, over a villainous mountain track is a mode of travel that has much to recommend it as a novel experience, but leaves much to be desired from the point of view of comfort.

Though the towns of the Altaplanicie and the neighbouring valleys have been linked up by telegraph lines, such distant places as Riberalta, Santa Cruz de la Sierra and Puerto Suarez could not be communicated with except by post, a method that involved many risks and great delays. Wireless stations have now been erected that have brought ten of these outlying towns into touch with the capital.

Its long and numerous rivers provide the northern section of the lowlands with its chief means of communication and transport. Two of these streams, the Beni and the Guaporé, are navigable for shallow draught vessels for a thousand miles. Uniting with other great rivers, they form the Madeira river that flows into the Amazon and gives an easy outlet for the rubber and other produce of this region. The "cachuelas" or falls of the Madeira, which formerly exacted a heavy toll in human life and goods, can be avoided by using the recently opened Madeira-Mamoré Railway.

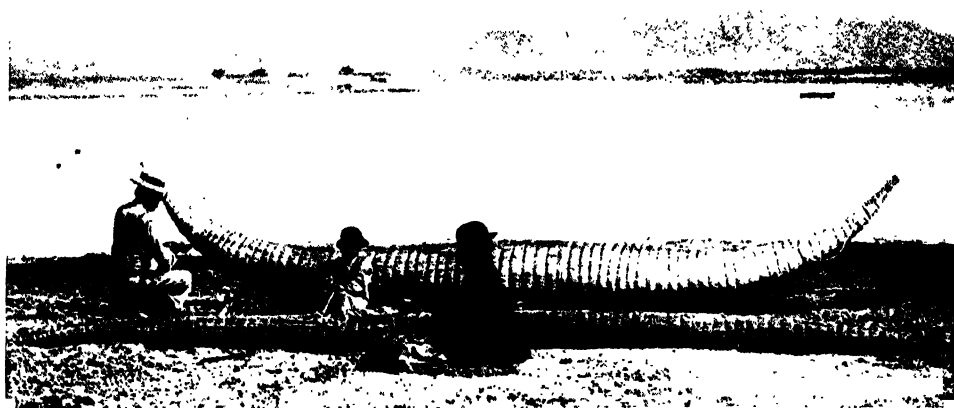
The southern lowlands, though less well endowed with large rivers, possess two that give access via the River Plate to the Atlantic seaboard. Of these streams, the Pilcomayo and the Paraguay, the latter is navigable for river steamers of ten feet draught for more than a thousand miles. The only method of marketing the produce of south-eastern Bolivia is to cart it to the Paraguay river. The railway under construction from Yacuiba on the southern frontier to Santa Cruz will be connected with northern Argentina and open up a fine new farming region.

Three railways give access to the Altaplanicie from ports on the Pacific. From Mollendo one may travel through



MUD KILN OF THE CHOLO POTTER AND SOME EXAMPLES OF HIS WORK

When the pots have been shaped they are placed in the kiln of sun-dried bricks and mud and fired for about three hours. The kindling used is sage brush, the only satisfactory kind available, and this gives a fire of great temperature. Completed, the pots are graceful in shape and no discredit to the potter. The scenery behind shows the barren uplands of the lower slopes of the Cordillera Real



REED CANOES BEING BUILT BY THE SHORE OF LAKE TITICACA

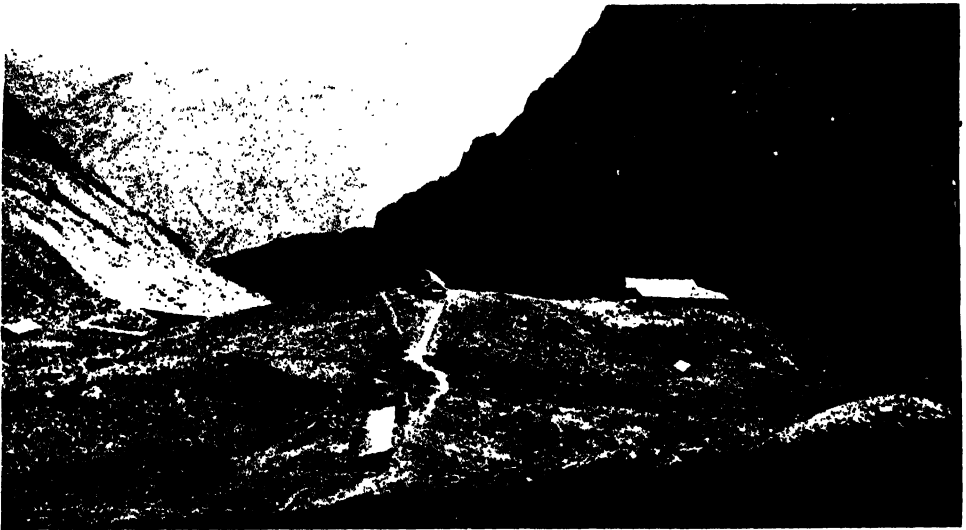
Indians dwelling about the lake construct their canoes of reeds upon a framework of wood, and in about six months these crazy craft become waterlogged. Lake Titicaca fills a hollow of the Cordillera Real at a height of 13,000 feet. It is 130 miles long with an average width of 30 miles. There are many bays along its margin which is formed in places by desolate plains, over which sweep furious storms

southern Peru to Lake Titicaca, thence by steamer to Guaqui, which is connected with La Paz by a short line. The Antofagasta and Bolivia Railway runs from Antofagasta through the Chilean nitrate fields, and in traversing the length of the Altiplanicie to La Paz, sends out branch lines to important mining and agricultural centres. The shortest route is from Arica to La Paz, a line that taps the copper belt of Corocoro. The railway under construction from Uyuni to Tupiza will, when completed, make it possible to travel by rail from La Paz to Buenos Aires, a distance of 2,600 miles, in less than five days.

Thanks to the exports of tin and other ores, Bolivia's foreign trade returns show a comfortable credit balance, a balance that would be greatly increased were the country self-supporting in the matter of foodstuffs, as it should be. Almost until to-day Bolivia's best customer has been Great Britain. Within the last few years, however, a large part of this trade has been captured by the United States. The exports to Great Britain, which in 1917 amounted to 77,000 tons, dropped to 30,000 tons in 1920. During the same period the exports to the United States increased

from 28,000 tons to 69,000 tons. In 1920 Bolivia imported from the latter country goods to the value of £1,409,000, while Britain's share amounted to only £994,000. Judging by these figures, it would seem that the British trader will soon be ousted from this field unless he bestirs himself; yet the average Bolivian would sooner do business with him than with any other foreigner, and holds British goods in high esteem.

Bolivia has the distinction of possessing two capitals—La Paz, the seat of government, and Sucre, the constitutional capital. His first view of La Paz will cause the traveller to give a gasp of surprise. Not until his train has drawn alongside of a precipice will he catch sight of what appears to be a toy town of red roofs in a setting of jade green lying 1,500 feet below at the bottom of a deep crevasse. The cobble-paved streets of the town are clean, but steep and slippery, and the walls of its adobe-built houses are painted with distemper. The climate is much pleasanter than that of the plain above. During the day it is pleasantly warm even in the winter months, but after sundown there is usually a considerable drop in the temperature.



IN A VALLEY OF THE CORDILLERA REAL: A GOLD-MINE NEAR LA PAZ

Among the many minerals in which Bolivia is so rich is gold, which is chiefly found about La Paz and in the province of Santa Cruz. Gold washing is extensively carried on at Tipuani. Here we have a small working in a pocket of the Andes. The actual mine is being worked just over the ridge beyond the central hut while on the right are the quarters of the Indian workmen



H. J. Kitchen

MAIN STREET OF ORURO, A MINING TOWN OF THE CORDILLERA REAL

A desolate, wind-swept area surrounds Oruro which lies on the mountain side at least 1,200 feet above the sea. Apart from the rearing of llamas and alpacas by the natives little farming is practised, for the ground here is barren. Tin-mining is the principal industry and one may see one of the mines on the hillside above; formerly silver was mined but now the more precious ore is virtually exhausted.

Sucre lies at an altitude of 9,328 feet on a little plateau surrounded by the mountains of southern Bolivia. Founded five hundred years ago by the Spanish invaders on the site of an ancient Inca town, it antedates its rival capital by twenty years. Well built houses and pretty gardens are its notable features.

Oruro is the commercial centre of the tin-mining industry; it is also the starting point of the branch railway that taps the agricultural region of Cochabamba. Situated on the Alta-

planicie at the foot of a small hill riddled with tin and silver mines, it is a flat, unprepossessing town of adobe houses, with streets that are constantly swept by miniature sand-storms.

At 13,661 feet above the sea lies Potosi, famous for five centuries for the fabulously rich silver mine that called it into existence; it possesses many fine buildings and interesting relics of its Spanish founders. The climate is severe, the temperature falling as low as 9° F. below zero.

BOLIVIA: GEOGRAPHICAL SUMMARY

Natural Divisions. High plateau or Puna or Altiplanicie, between the Western Andes and the Cordillera Real. East Andise slopes, the Yungas or the "Valle." East Bolivian lowlands.

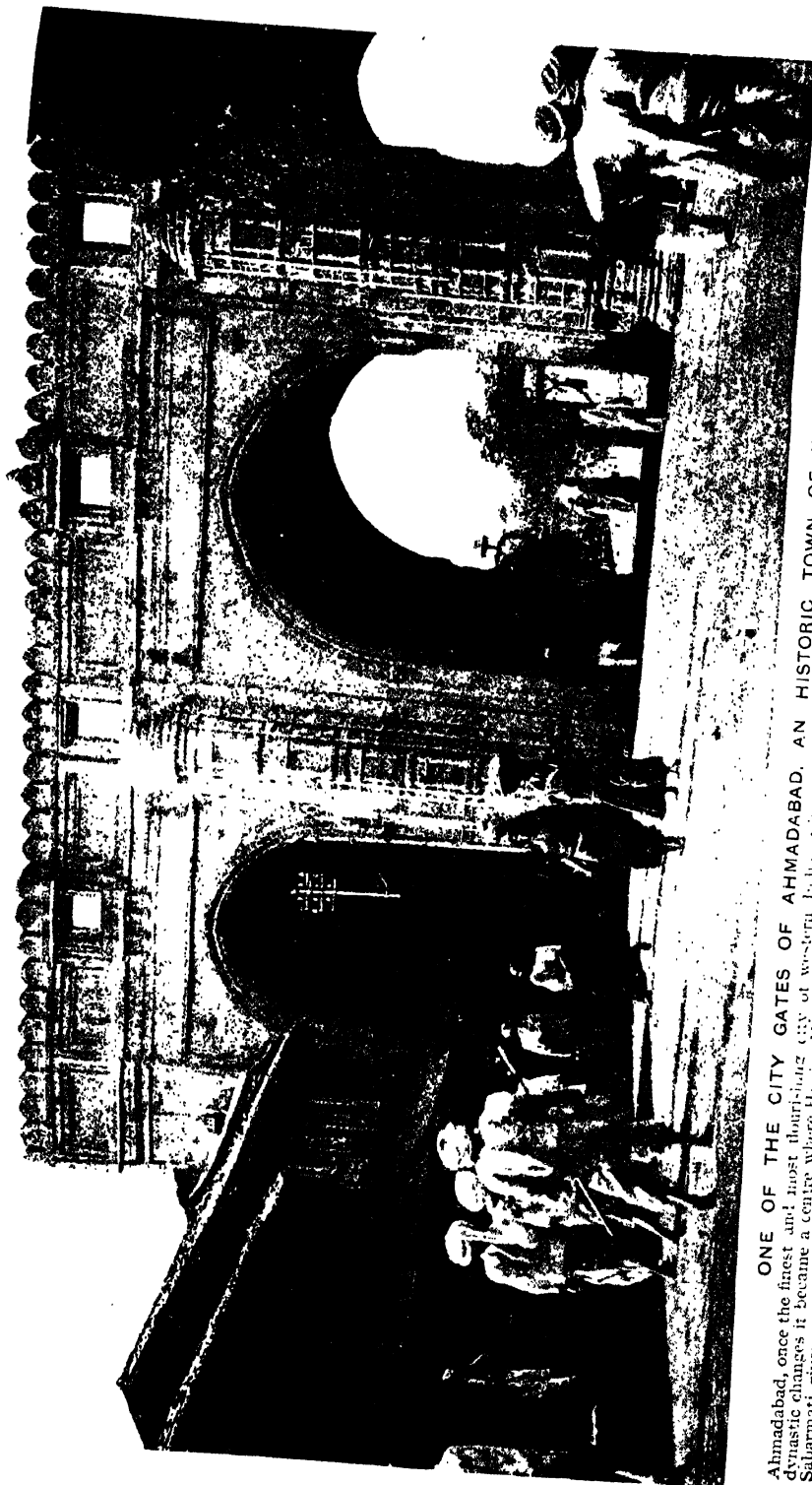
Climate and Vegetation. A rare atmosphere, with extreme temperatures on the plateau; tropical temperatures on the lowlands. Summer rains, light on the mountains, heavier on the plains; permanent snow on the highest peaks. Tropical forests or grasslands on the eastern lowlands--the valleys of the Amazon tributaries and the Pilcomayo. Desert in the south-west, an extension of the desert of Atacama (see Chile). The plateau is treeless and arid, with a luxuriant carpet of vegetation after one of the infrequent rain storms.

Products. Mineral. Tin, silver, copper, wolfram, petroleum.

Agriculture. Coffee, cocoa, cane sugar, wheat, maize, fruits for local use; cocoa and wild rubber for export.

Communications. North-east to the Amazon and Brazil, by the Madeira valley. South-east to Argentina by rail and track. North-west to Peru (Mollendo) by lake steamer and rail. South-west to Antofagasta and Arica, both in Chile, by rail.

Outlook. The Indians are of little account. The east competes with Brazil and North Argentina, and is more remote from the Atlantic Ocean; its future promises little of immediate value to the rest of the world. The plateau depends upon its minerals, and at present chiefly on tin; for these railways exist and Europeans endure climatic privations. Otherwise the country is a zone of difficulty and is backward.



John Bushby

ONE OF THE CITY GATES OF AHMADABAD, AN HISTORIC TOWN OF WESTERN INDIA

Ahmadabad, once the finest and most flourishing city of western India, still retains some of its former glory in the richness of its architectural relics. Through dynastic changes it became a centre where Hindu, Muslim and Jain art were fused as, for example, in the Jama Masjid (see page 810). The town lies on the Sabarmati river 300 miles north of Bombay, is an important centre of the cotton industry, and has manufactures in gold, silver, pottery and paper. The city is completely enclosed with walls and one of the eleven gates is illustrated above.

BOMBAY AND GUJARAT

The Coastal Strip of Western India

by Edward E. Long and Marmaduke Pickthall

Authorities and Writers on Indian Subjects

The territory described in this chapter (Bombay, Cutch, Kathiawar and Gujarat) comprises the whole of the Bombay Presidency with the exception of Sind and Aden. The latter, whose political status is, of course, an anomaly, is described under the heading of Arabia, and Sind for geographical reasons is included with Rajputana, while Bombay City is the subject of a separate chapter. Mr. Long is responsible for the first three divisions and Mr. Pickthall for Gujarat, but to secure topographical simplicity it has been decided to combine the four, hence the composite nature of the chapter. —EDITOR

THAT portion of the Bombay Presidency first described comprises Khandesh, the Deccan, the Konkan and the Carnatic. A great deal of this is British territory, but it includes the large Native State of Kolhapur, the Southern Maratha Country States, the Satara Jagirs and the small States of Janjira, Savantvadi, Jawhar and Sargana, and completely surrounds the small Portuguese colony of Goa. The area of the whole territory is about 70,000 square miles and it has a population of nearly 16,000,000.

In length 500 miles and at its broadest 200 miles across, it is bounded on the north west by the hilly lands of Gujarat, on the north by the Satpura range situated in Central India, on the east by the plains and hills of the Central Provinces, Berar and Hyderabad, on the south by the Native State of Mysore and the Madras Presidency and on the west by the Arabian Sea.

Hemmed Between Ghats and Sea

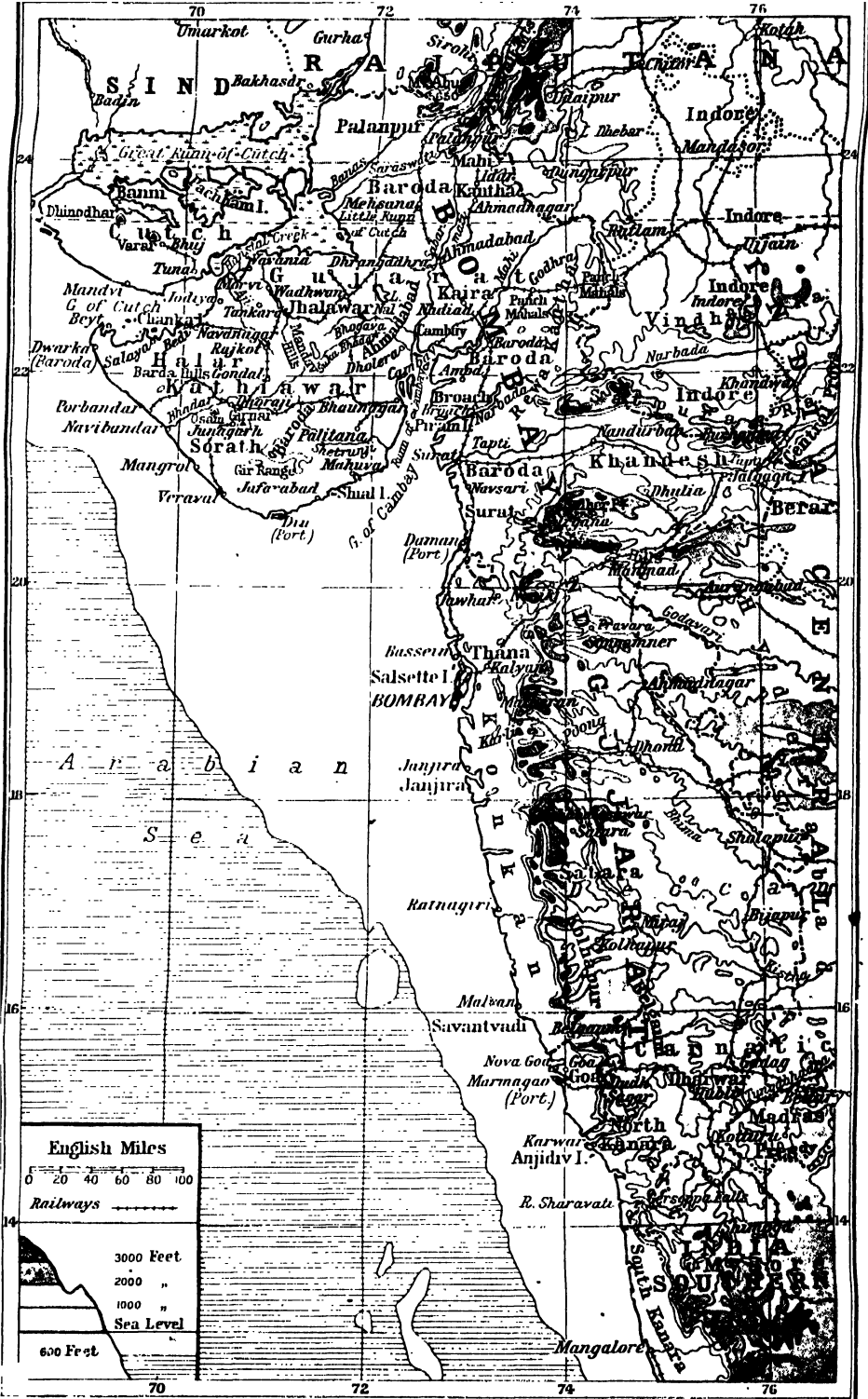
The physical aspect is that of a country traversed throughout its entire length by a rugged line of mountains. From the river Tapti, which traverses Khandesh, the Western Ghats run southward; at the start they are 70 miles from the sea, but at the finish in North Kanara, the southernmost portion of Bombay, they are much nearer the coast, and it is the long,

narrow strip of land between the Ghats and the sea which is known as the Konkan a region of steep mountain slopes and a narrow coastal plain.

Beyond the Mountain Spine

On the other, the eastern, side of the Ghats, Khandesh in the north, separated from Indore by the Satpuras which attain an elevation of over 5,600 feet, is split up into two unequal parts by the river Tapti and juts out eastward forming a barrier between Central India and Hyderabad. The northern and smaller portion is mostly difficult, rugged and thickly wooded country; in the southern portion a great alluvial plain, well watered and thickly cultivated, stretches southward for 150 miles to Hyderabad, with hilly ground along by the Ghats in the west.

South of this a range of hills from east to west, the Satmalas, divides Khandesh from the Deccan plateau which extends southward from here to the Carnatic; for the most part it is a broken, rocky, dry, rugged and almost treeless plain sloping gradually to the level fields of Berar and Hyderabad, having large tracts of uncultivated land but crossed by two rivers, the Kistna and the Godavari, whose courses are studded with cultivation. Southward beyond the Deccan comes into view the Carnatic, first a stretch of treeless, hilly and broken ground, then a large tract of well watered fields and finally, in the



BOMBAY AND GUJARAT BETWEEN SEA AND WESTERN GHATS

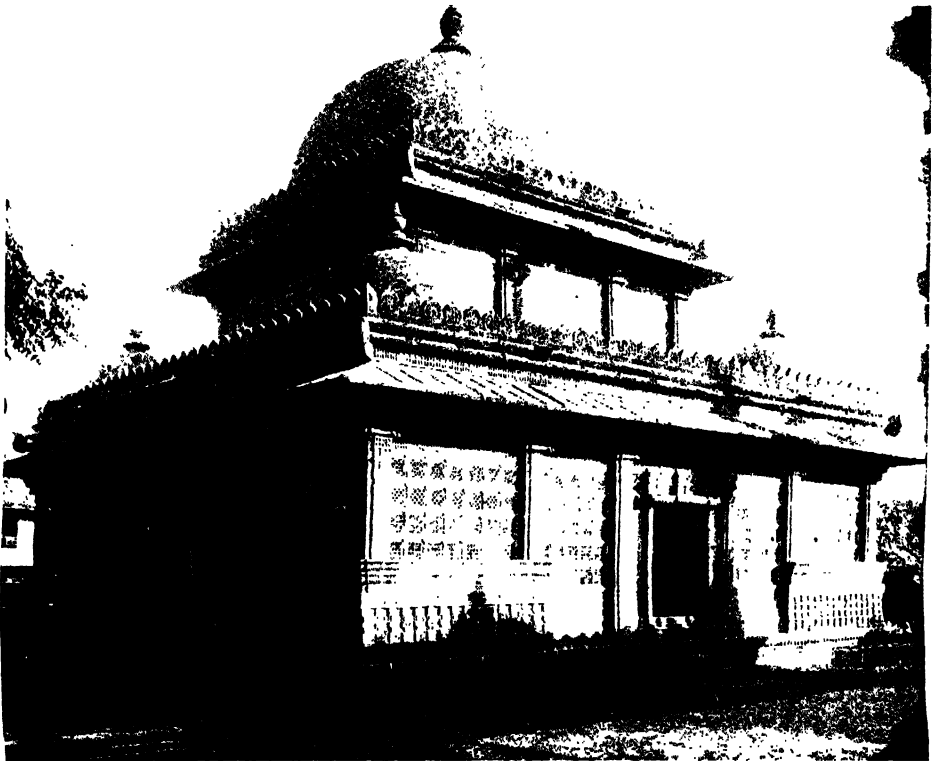
south, rolling hills covered with giant evergreen forest.

The chief mountain range is that of the Western Ghats, 1,000 miles in length, with a general elevation of 1,800 feet and here and there peaks twice this height. Being so near to the coast, from the sea they appear like giant forms guarding the approach to the interior of Hindustan; and viewed nearer, with their weird outlines and the wonderful hill forts of fierce Maratha warriors of a past generation perched upon seemingly inaccessible crags, they form a wonderful combination of the fantastic and picturesque. Their descent to the sea on the west is in steep terraces rather than by sheer precipice.

Of rivers Bombay has none which it can call its own, but the Kistna and the Godavari, of which the former rises in

the Ghats near Mahabaleshwar and the latter near Nasik, flow south-eastward across the plain of the Deccan on their way to the Bay of Bengal, and the Tapti traverses the entire length of Khandesh, receiving thirteen tributaries in its winding course.

In the extreme south, in North Kanara, there are some westward-flowing streams which, taking advantage of a "break" in the Ghats, pass through these mountains and empty into the Arabian Sea. The largest of these, the Sharavati, courses madly downwards from the mountains in the beautiful Falls of Gersoppa, where some of the most magnificent scenery in India may be seen. The province has no real lakes and the only islands are those of Bombay with Salsette close by, and Anjidiv, a Portuguese possession.



MOST BEAUTIFUL MONUMENT IN BOMBAY'S LOVELIEST CITY

This wonderful shrine, both tomb and mosque, was built in 1514 to house the body of Rancee Supree, a favourite wife of Mahmaud Bigarah. The dome is supported on a row of six double pillars and another of six single pillars. Ahmadabad is the chief city of its district, about 310 miles north-west of Bombay. An Englishman in 1615 described it as "a goodly city as large as London"



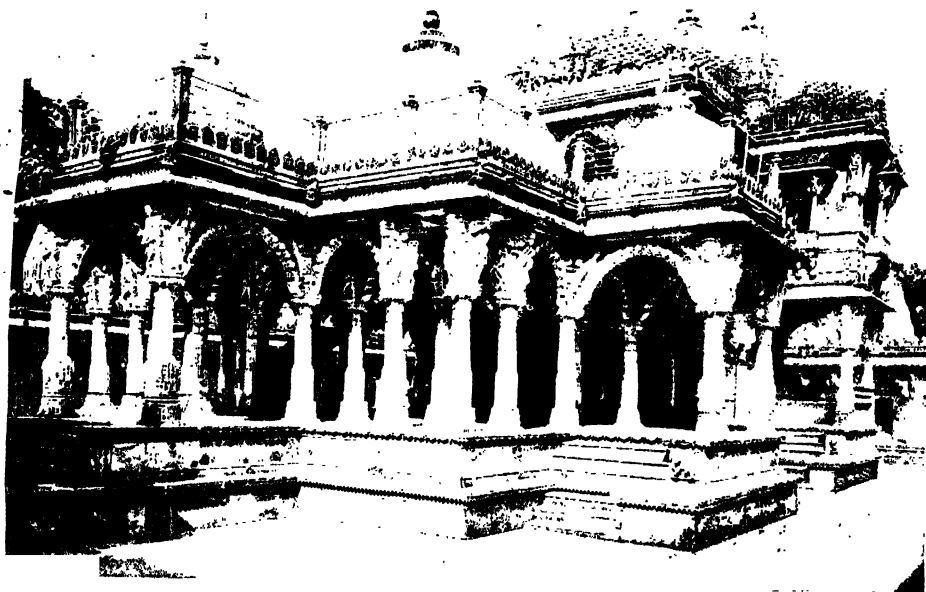
VISTA OF RECEDING GALLERIES AT THE WELLS OF DADA HARI

The outskirts of Ahmadabad are rich in scenic and archaeological interest and at the well of Dada Hari we find a charming fusion of both elements. The wells are outside the city, about half a mile from the Daryapur Gate, not far from the temple of Hathi Singh shown in the opposite page. These fine galleries below ground lead to an octagonal well with inscriptions in Sanskrit and Arabic.

With such a varied physical aspect, naturally the climate of Bombay has great differences. The Konkan, which bears the brunt of the fury of the south-west monsoon and has an average rainfall of from 100 to 150 inches, has its atmosphere heavily charged with moisture and the climate, except during December, January and February, is very oppressive and enervating, though the temperature rarely exceeds 96° F. Khandesh has a varied rainfall, heavy in the western hills and forests and in the Satpuras and scanty in the centre and south, and a climate pleasant, cool and bracing from October to January,

but very dry in the hot weather. The temperature falls as low as 52° F. in January and rises to 110° in May.

The Deccan has a moderate rainfall of between 20 and 30 inches. In March and April a not unusual temperature maximum is 108° to 110° , but the air is dry, and so the heat is not oppressive. During the south-west monsoon the climate is cool and pleasant, and the cold months, December and January, are quite bracing. The Carnatic gets a heavy rainfall in the west, increasing from 50 to 200 inches as the edge of the Ghats is approached, but in the east the fall approximates to that of the Deccan.



AHMADABAD'S MOST OUTSTANDING MODERN BUILDING

One of the finest of the more modern native buildings in all India is the famous temple of Hatla Singh at Ahmadabad. It stands just outside the Delhi Gate and is built in the usual Jain style with a profusion of detail, only appreciated on close examination, adorning its porticoes and roof. The inner porch illustrated above stands inside a large walled court and leads to the innermost triple sanctuary.



NATIVE HOUSES OF BIJAPUR SET HAPHAZARD IN CLOSE FORMATION

Rev. H. E. Barrell

Once the capital of a Mahomedan kingdom and endowed with greater splendour than graces it to-day, Bijapur remains still a considerable city. It is on the railway, 60 miles south of Sholapur, and contains a large fort and many mosques. Seen across the city, in the right distance, is Sultan Mahomed's tomb, the Gol Gumbaz, whose dome is said to be the second largest in the world.

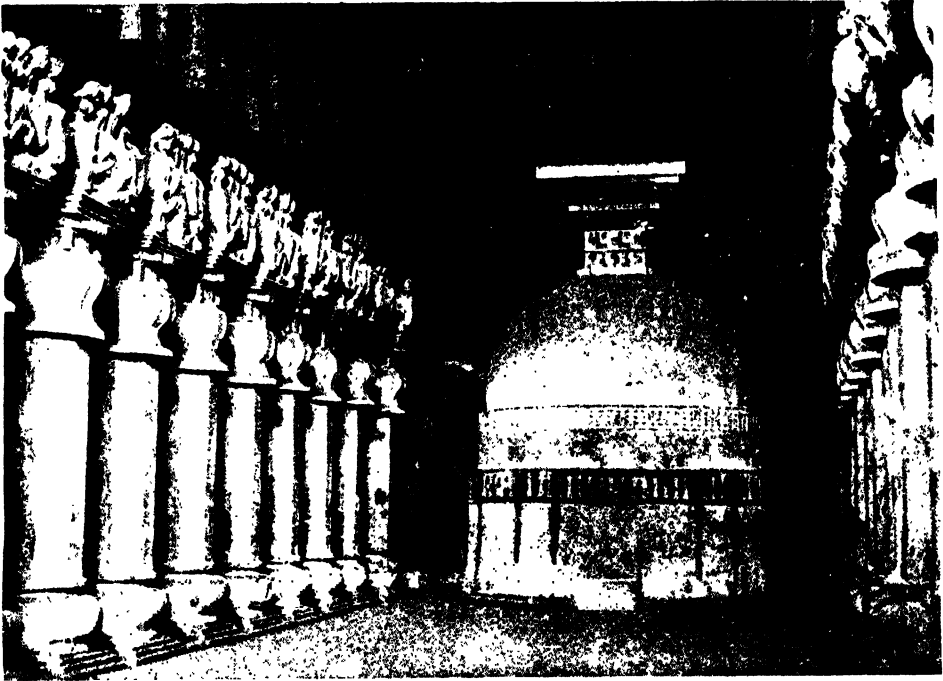
Important hill stations are found at Matheran and Mahabaleshwar, the latter being the more popular.

The flora of Khandesh and the Deccan is somewhat poor; the commoner trees have either been planted intentionally or preserved, the shrubs are often thorny and stunted, and the weeds of cultivation represent the herbaceous plants; but the grasses show a good deal of variety and in the rainy season the plains afford luxuriant pastures. That part of the Carnatic which adjoins the Deccan resembles it in flora, but in its southern part, in North Kanara and throughout the Konkan and the adjoining Ghats, the vegetation is rich in form and in beauty. Lofty trees are intermingled with luxuriant shrubs, often growing in impenetrable thickets, and large tracts are covered with dense, tropical forest, though the herbaceous vegetation is in general poor and scanty.

The forests are very extensive and are preserved, but such operations are not

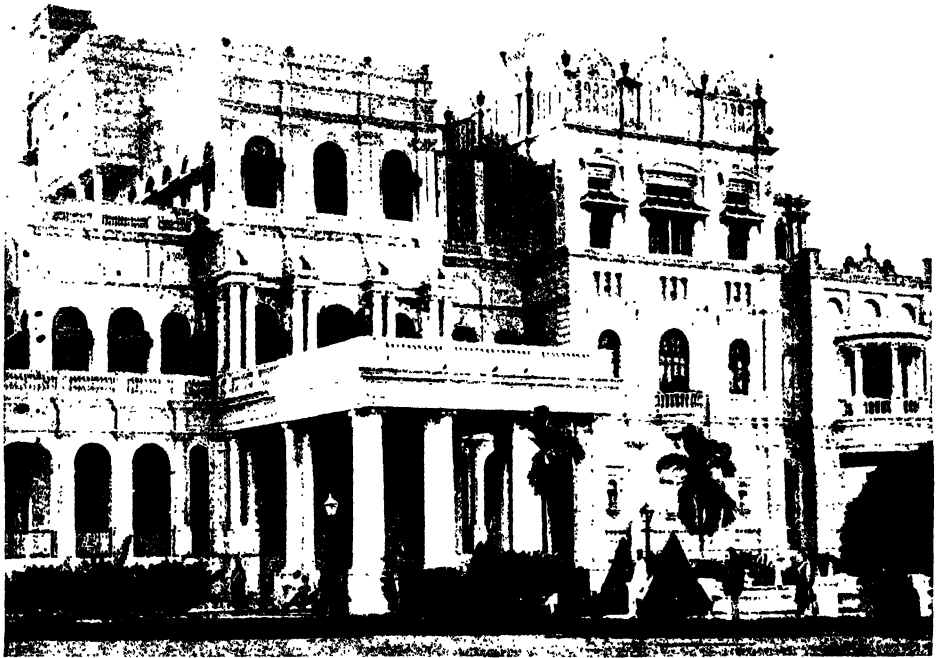
popular and where they can do so the peasants often burn valuable timber to obtain grazing ground. The principal timber trees are teak, two varieties of blackwood, ebony, babul, khair (which yields a catch extract), jamba (termed "iron-wood"), tamarisk, sandal-wood and bamboo. And among trees valuable for their fruits, nuts or berries are the mango, coconut, bastard date, betel-nut and palmyra palm.

Wild animals exist in considerable variety. The tiger is scarce, cultivation having driven him into remote jungles, the leopard is common, the sloth bear haunts rocks, hills and forests, and in the mountain glades of Kanara the bison roams. Sambar deer are plentiful, the nilghai and the antelope are numerous, also chital and barking deer. Venomous snakes of great variety exist and exact a heavy death-toll from the natives. The jungles yield such game as snipe, quail, partridge and duck, and the sea and rivers abound with fish.



WITHIN THE SACRED PRECINCTS OF BUDDHA'S CAVE TEMPLE AT KARLI

This remarkable sanctuary in the Western Ghats is considered the finest example of Buddhist cave temples in India. The simple but dignified interior, characteristic of the early age of Buddhist worship, contains no image, but at one end, sheltered by a wooden roof, with solid rock-hewn pillars standing on either side, is the stupa or massive dome-shaped relic shrine representing Buddha



STATELY NAZARBAG PALACE WHERE THE GAEKWAR KEEPS HIS JEWELS

Hidden away within these dazzling white walls in safe and strong room is the marvellous collection of jewels belonging to the Gaekwar of Baroda. There is a pearl necklace worth at least £500,000, and a diamond necklace whose price would keep a man in ease for life. They are all State jewels handed down from age to age. The palace is occasionally used to entertain royalty.

Bombay was once famous for its hardy ponies, but the good breeds have greatly diminished. Mules and donkeys are numerous, and cattle in general are allowed to breed promiscuously; the best are bred in the Kistna valley; sheep and goats are kept in large numbers and goat milk and flesh are common articles of diet.

The soil varies considerably. Characteristic of the Deccan and Khandesh is the black soil which is formed from the weathering of the trap rock, and this is used for the wheat, cotton and jowar crops. In the valleys of the south-west reddish-brown laterite is terraced into rice lands, and the bottom soils, which form the greater part of Belgaum and Dharwar, are clay loams of great natural fertility. The dark, deep soils grow the richest crops, the light soils yield only coarse grains.

The black soil mentioned above is ploughed only when the fields have grown foul, but the reddish-brown has

regular ploughing. For rice cultivation, in some parts, mountain streams are dammed and the river valleys converted into wide expanses of waving rice fields.

About three-quarters of the population are engaged in agriculture, and little cultivable land remains uncultivated; in fact, outside large centres of industry, the population may be said to consist almost entirely of the land-owning classes and of agricultural labourers, and the greater part of the land is occupied by the cultivator himself. The great staple is cotton, which flourishes in Khandesh, the Deccan, Dharwar and the Carnatic, the latter vying with Broach in producing the best cotton in India. The Konkan is a rice land, but in other parts wheat and millets are grown and form the principal food crops.

Other crops are sugar-cane, yams, turmeric, cinnamon, sago and nutmeg; and North Kanara produces excellent pepper, cardamoms and betel-nut. Most

of the fruits common to India are grown; similarly vegetables. Bombay mangoes have a great reputation, good grapes are grown at Nasik in the Ghats, Ahmednagar produces large quantities of the Cape gooseberry and excellent strawberries are cultivated at Mahabaleshwar with its temperate climate. The forests yield quantities of timber for building and firewood and supplies of rosha grass, catechu, wax, honey, lac and medicinal seeds and roots.

Geologic Remains of an Old Continent

The most important geological formation is the immense accumulation of volcanic rocks, principally basaltic lavas, known as the "Deccan trap"; it covers almost the entire region situated between the 16th and 22nd parallels of latitude. The Deccan tableland is one of the relics of the old Gondwana continent which formerly connected India with Africa, and which broke up about the time when the chalk was forming in Europe. It is one of the few solid blocks of ancient land which have not suffered any of the folding movements so marked in most lands and which, so far as can be ascertained, have never been depressed beneath the ocean, for except at low levels near the coast not a single marine fossil has been discovered in the whole of the Deccan. Here and there, where the "trap" has been cut through by weather influences, one gets a glimpse of the old land surface which was overwhelmed by lava flows - a wonderful peep at the world of dim, far-off times!

Centre of India's Textile Trade

Though agriculture is the principal industry, there are other important ones, and though minerals are almost non-existent gold occurs in Dharwar and is being worked there is a wide distribution of handicrafts. The province is the great centre of India's textile trade, Bombay City standing easily first but Sholapur having a considerable share.

Bombay is noted for its silver and copper ware and Nasik and Poona have

a reputation for brass work; but indigenous industries are suffering everywhere from modern organized industrial competition and tend to diminish in importance. Silk manufacture, hand and machine, is carried on and gives employment to many thousands of people, gold and silver thread and embroidery are produced, reliable leather goods are made by Indian workmen under European supervision in Poona and Bombay, wood carving and pottery are local arts and oil-seed presses are numerous, while iron roller-mills have largely superseded the old wooden mills for crushing sugar-cane.

Communications are good, Bombay being well supplied with roads and railways except in the Konkan, where the natural obstacles to railway communication have proved insurmountable. Bombay City is the centre of traffic from which lines run northward along the coast linking up Bombay with Gujarat, Rajputana, Delhi and the north, eastward over the Ghats to Central India, the United Provinces and Calcutta, and southward, also over the Ghats, to Southern India generally.

Trade and Conditions of Life

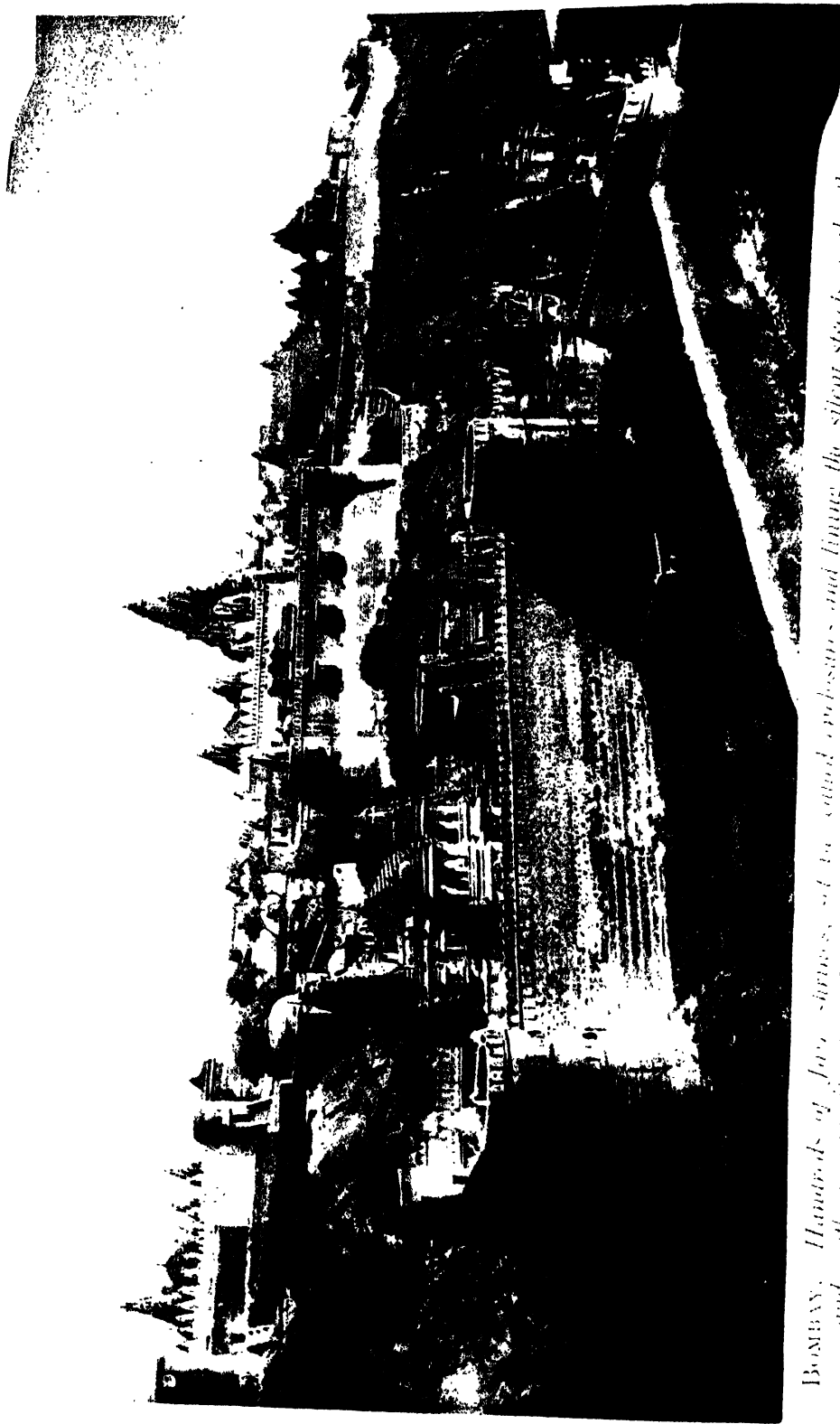
Communications along the coast are maintained by regular and frequent services of the British East Steam Navigation Company and there are sailings to all parts of the world from Bombay.

Trade is borne chiefly on the railways, fed by cart traffic along metalled roads; a certain proportion is sea-borne from one part of the province to the other. An export trade is maintained via Bombay with most of the countries of the world, raw cotton, grain, pulse, seeds and hides being the chief articles of export, while metals and machinery, sugar, oils, silk, cotton and woollen goods are the chief imports.

As for conditions of life, these are very simple and primitive in rural areas as in other parts of India. People of all classes make the greatest effort to have a house of their own, be it ever so



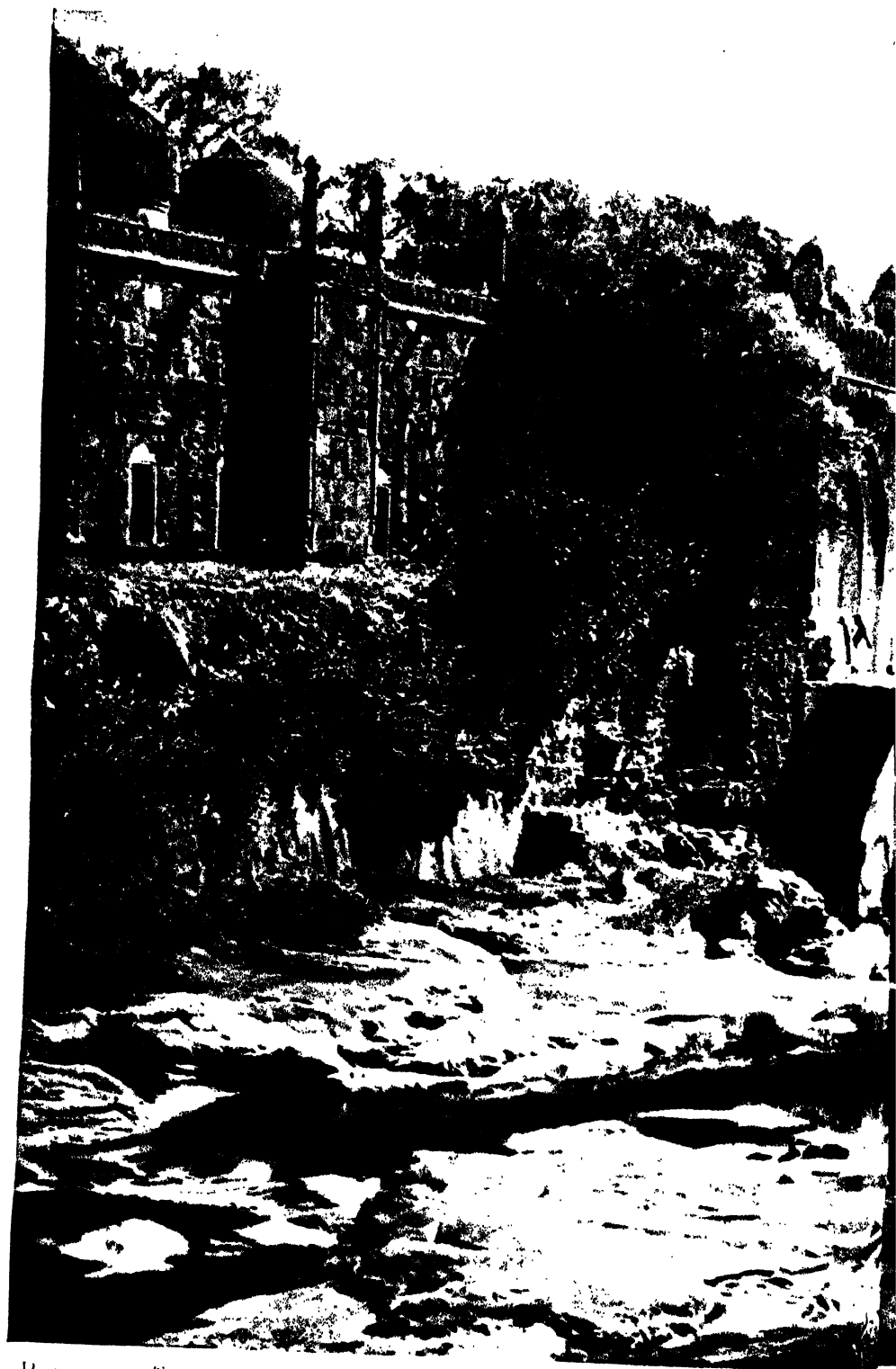
BOMBAY. *Carved work of exquisite beauty enriches the eleventh-century Hindu temple of Surya, the sun god, at Modhera in Gujarat*



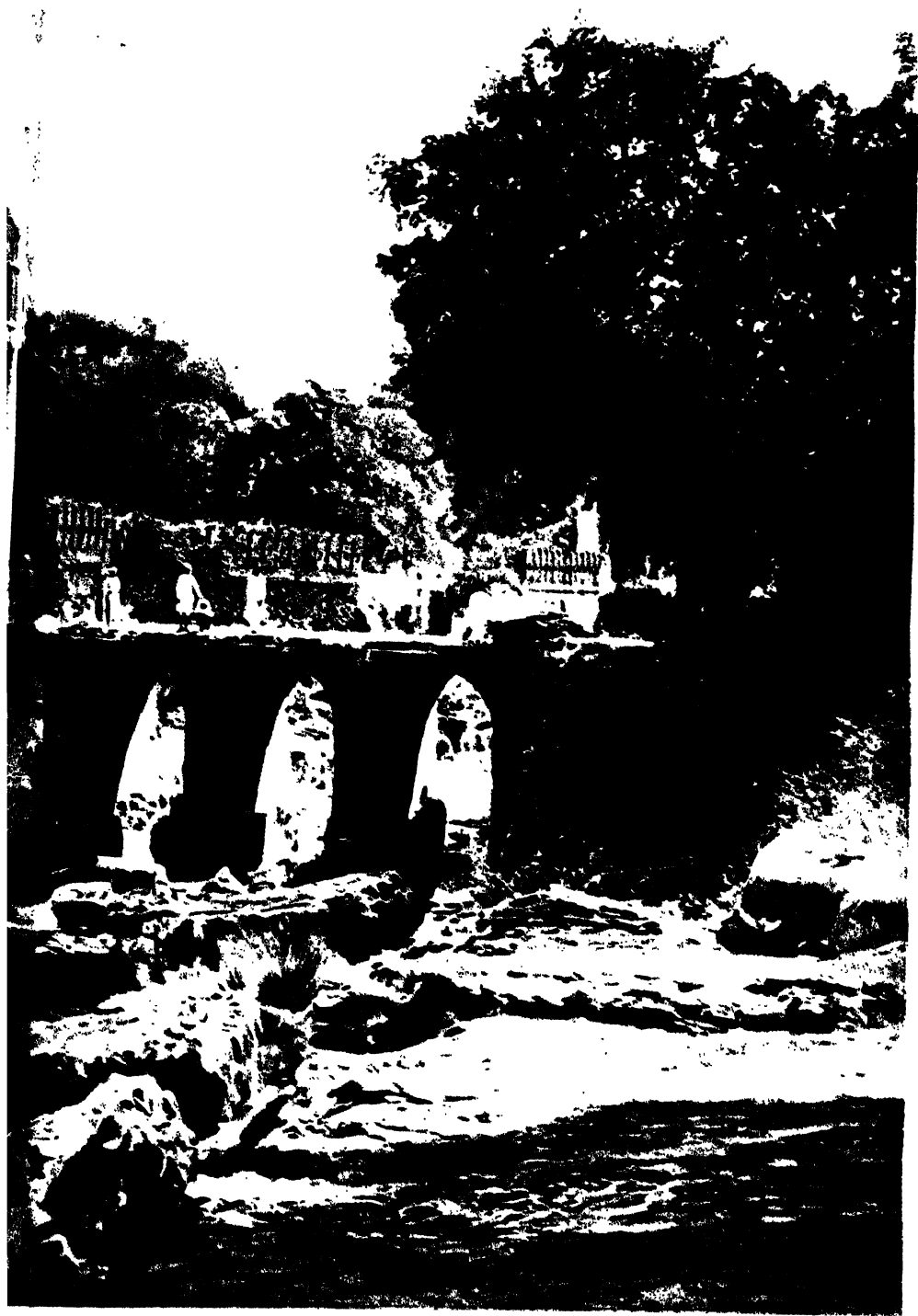
BONWAY. Hundreds of Jap. shrines, set in catenae of embosoms and lining the silent streets, make the northern and southern summit of Sakurayama, the Holy Mountain of Fushimi in Kohinokar, a city of the gods.



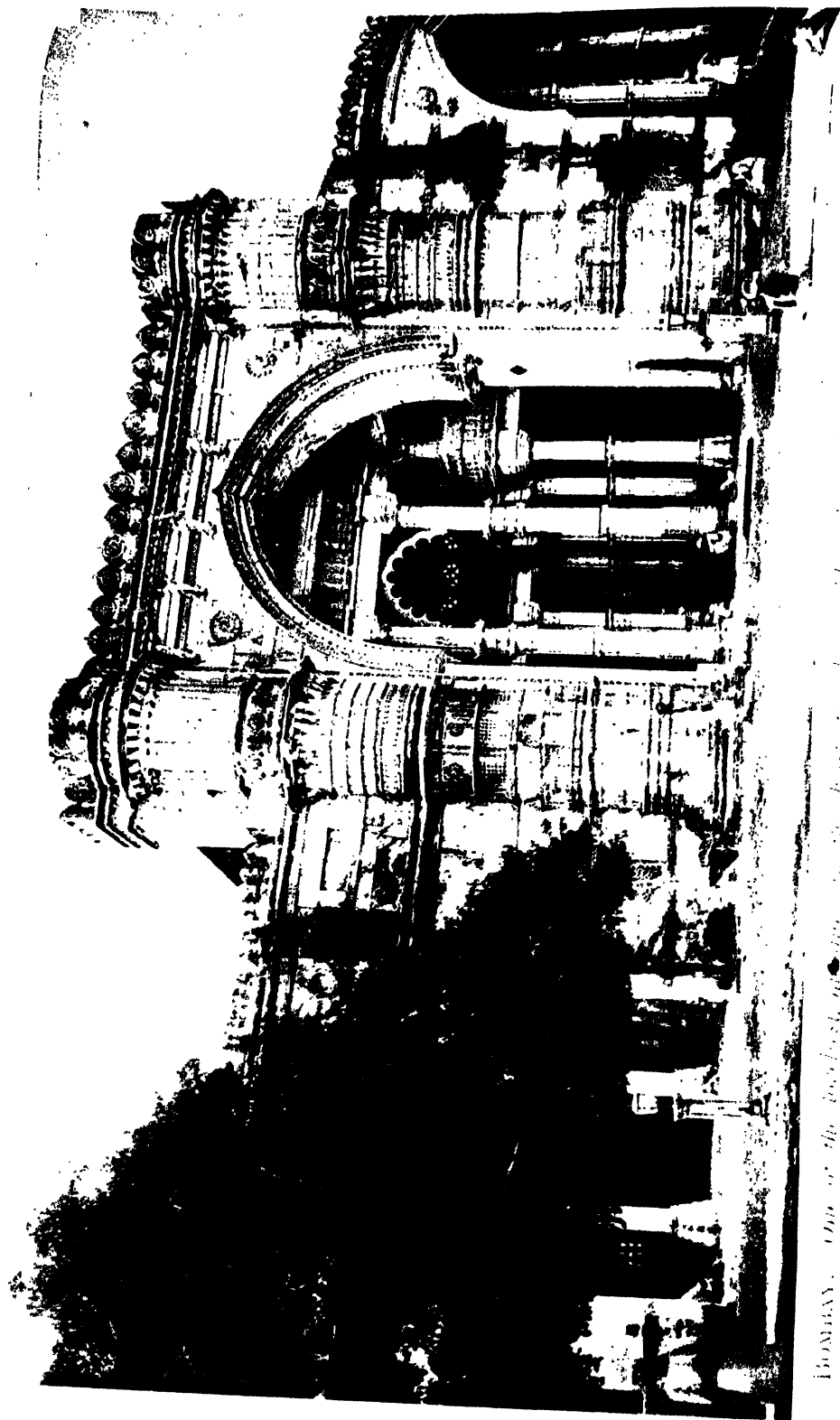
BOOMBAY. Built in the eighteenth century at immense cost this temple to the goddess Parvati, wife of S. S. The hillside gives access to the temple.



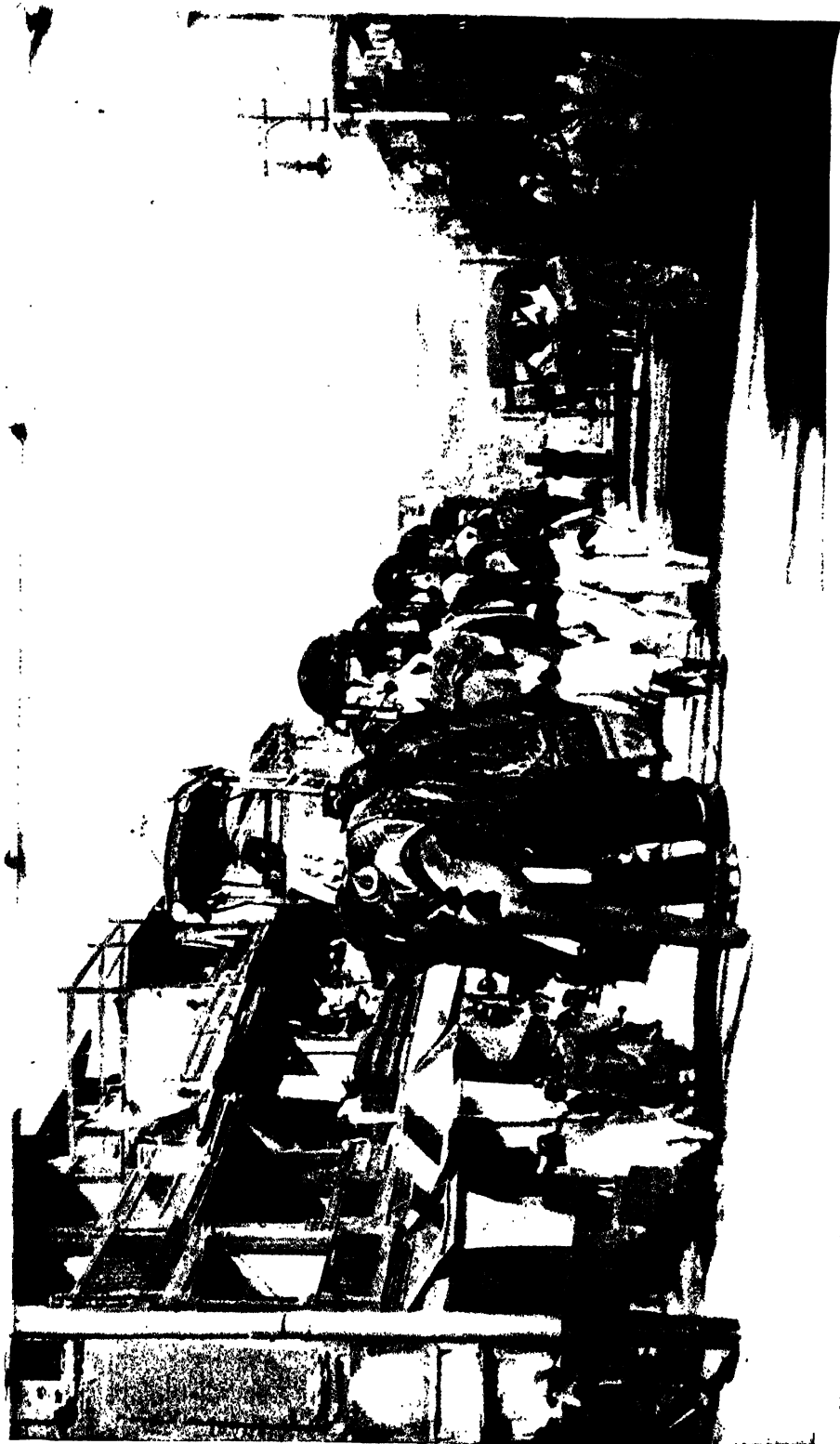
BOMBAY. From 1489 to 1686 Bijapur was the strong fortress capital of an independent kingdom, and its noble ruins are still the most picturesque in India.



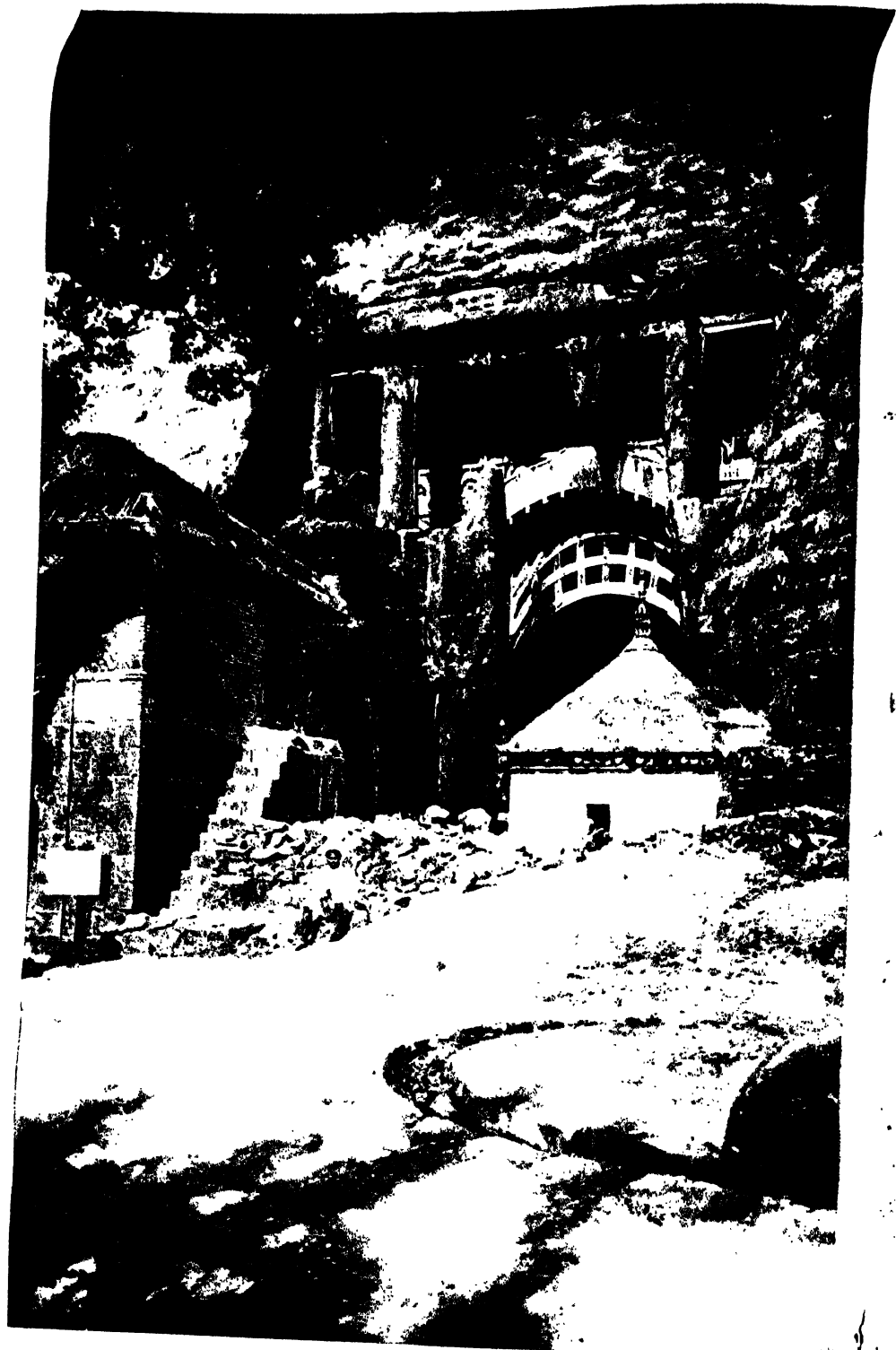
The town is surrounded by a wall six miles in circuit with massive bastions and seven great gates, the whole protected by a moat about forty feet wide



BOMBAY. One of the best specimens of the Jain temple. Bhamburda stands in the centre of Ahmedabad. The black marble slab below the Prabhavali is an ancient Jain idol on which the faithful trample.



BOMBAY. Colour comes to life in Baroda when the Cobblers' state of phantasy, represented in gold and scarlet and blue and placed by white and black in place by place, comes through the wide Manipal barand.



BOOMBAY. Although of wood, this frontal arch of the "chaitya" cave at Karli and the roof within have stood the wear of twenty centuries

humble, as usually it is—a shanty of roughly made mud bricks, dried in the sun, with a layer of rafters and a foot or two of solid earth on them for a roof. Sanitation is an unknown word amongst the peasantry, and flies and mosquitoes do a good deal of deadly work.

Bombay is a land of few towns or cities. Apart from Bombay City there is Poona with a population of 214,796, the city of Sivaji, pleasantly situated up in the Ghats 1,850 feet above sea-level—the last capital of the Marathas. It is a large military station, the seat of the Bombay government from June to October, and has many interesting old ruins—notably the palace of the Peshwa and numerous well designed and imposing public buildings. An important educational centre, it is also of considerable commercial importance and possesses cotton mills, iron and brass foundries and a paper mill.

Monuments of Mahomedan Power

Almadnagar, a walled city with fort and moat, was once the capital of a great Mahomedan kingdom. Nasik, in the Ghats, is a town of great antiquity and celebrity and an important place of pilgrimage. It has very interesting Jain and Buddhist caves and many temples; once a Maratha capital, it is still a wealthy and prosperous town. Bijapur is famed in history and has some very fine Mahomedan remains, notably the Gol Gumbaz or tomb of Mahomed Adil Shah which has the second largest dome in the world. Sholapur, 1,800 feet above sea-level, is a thriving commercial town noted for its cotton manufactures. Its population is 119,581.

Away in the south between Savantvadi and North Kanara, and almost surrounded by the Ghats, lies the Portuguese possession of Goa with its principal river the Mandavi; in physical aspect it resembles the neighbouring Konkan and is similar in climate and vegetation, while its area is 1,300 square miles with a population of 480,000. A third of the territory is under cultivation, the principal crop is rice and it has

valuable forests; from the port of Marmagao, which has a fine harbour, there is a small trade which is but a shadow of that which Goa enjoyed in the days of its glory.

Outposts of Portugal in India

The old capital of Goa is, perhaps, more than any other one can think of, a city of the past. Captured by that gallant Portuguese captain, Affonso d'Albuquerque, in the year 1510 and raised by him and his successors to the rank of a world city, a centre of wealth and power with a population exceeding 200,000, it has sunk to-day to a few thousand and its famous colleges, churches, palaces, convents and splendid mansions are crumbling into dust. Nova Goa, the present capital, is picturesque and well-built, largely on reclaimed land, with many fine buildings.

Daman, another Portuguese possession, lies on the borders of Bombay in the extreme north, on the coast. Its area is 149 square miles and population 7,000. The soil is moist and fertile, its chief crops are rice, wheat and tobacco, and Daman, the port, has long enjoyed a celebrity for its dock and shipping yards.

Isolated Peninsula of Cutch

The Native State of Cutch, which together with Kathiawar is within the Bombay Presidency, lies between the sandy sun-scorched lands of Sind in the north, the native states of the Palanpur Agency in the east and the Gulf of Cutch and the Peninsula of Kathiawar in the south, and is bounded in the west by the Arabian Sea; with its curiously isolated geographical position and its many peculiar features it forms a most interesting though small portion of the Indian Empire.

In area Cutch covers 7,616 square miles, being 160 miles across from east to west and about 35 to 70 miles in length from north to south, and has a population of 484,547. It is nearly an island since it is cut off almost entirely from the continent of India by vast salt wastes known as



MAIN STREET OF BARODA CITY, CAPITAL OF A FAMOUS STATE

Capital of the state of that name, Baroda city is an important trade centre. It receives the cotton, cereals and tobacco which are extensively grown in the neighbourhood, and also trades in flax. The town is very well supplied with schools, churches and hospitals whose modern walls contrast strongly with the uncouth dwellings with their rough roofs seen here.

the Great Runn and the Little Runn of Cutch, and these great expanses of flat and almost desolate territory, covering no less than 9,000 square miles, become inundated during the rainy season, between March and October, when passage from Cutch to the mainland is difficult.

On the whole treeless, barren and rocky, ranges of small hills and isolated peaks relieve the aspect of the country, also rugged and deeply cut river beds. In the south a high bank of sand shuts off the sea from a low, fertile and well cultivated plain from 20 to 30 miles broad. Beyond this, small ranges of hills, narrow in the east but spreading out considerably in the west, break up the plain. They contain one noteworthy peak, Dhinodhar, only about 1,000 feet high but reputed to have been a volcano. There are no permanent rivers in Cutch but during the rainy season many streams of considerable size flow from the central range northward to the Runn and southward to the Gulf of Cutch. The most peculiar natural feature is the Runn, which varies in width from 35 miles on the

north to two miles on the east. Its origin is unknown; it may have been an arm of the Arabian Sea from which the waters have receded, or an inland lake whose seaward barrier has been swept away by some great natural convulsion. It was a navigable lake in the time of Alexander the Great, a shallow lagoon six centuries later, and there are local traditions of seaports on its borders. An earthquake in 1819 forced up the central part of the Great Runn, and it is considerably higher there than along the edges, which often are water covered when the centre is quite dry; in the Little Runn the sea is gradually encroaching. When the flood waters dry the Runn is left with a hard, flat surface covered with stone, shingle and salt, and as the dry season advances and the heat increases, the ground, blistered and blazed by the sun, assumes a blinding whiteness and distances are dimmed and distorted by dazzling mirages. Only in a few isolated and raised spots is there any water, and only near these is there any vegetation or animal life, and the loneliness of the vast region is intolerable.

For nearly nine months of the year the climate of Cutch is cool and healthful and along the coast it is fairly pleasant all the year round. April and May, however, bring fierce heat and dust-storms in the interior, and during October and a part of November the heat is again excessive. The maximum temperature known is 109° in May and the lowest 46° in January. Since it lies almost beyond the rainy influence of the south-west monsoon, Cutch has a small rainfall, a general average being 12.6 inches. Volcanoes exist no longer, but earthquake shocks are frequent.

The vegetation in Cutch is scanty, and the scarcity of trees renders the landscape uninviting. There are a few tracts of what is termed "forest," but these contain for the most part thorny and stunted trees, of no value for timber, and jungle grass. Sometimes nim, pipal and babul trees are to be found near village sites, and even the tamarind, banyan and the mango. Every effort is made to encourage arboriculture.

Among the wild animals are the leopard, wild hog and hare, the latter existing in large numbers, and the wild ass frequents the wastes of the Runn. The camel is the most important of the domestic animals, being almost indispensable for transport purposes, and the fleetness of the Cutch breed is renowned. Cows and buffaloes are also bred.

There is a fair proportion of good arable soil; it is mostly sandy (with dry patches), and hence easily tilled, so the holdings are large, the average being 35 acres. There are 4,342 square miles occupied for cultivation, and 50 per cent. is generally under crop. Wheat and barley, of indifferent quality, and cotton are grown, also the ordinary varieties of pulse and millet common to India and a little garden produce.

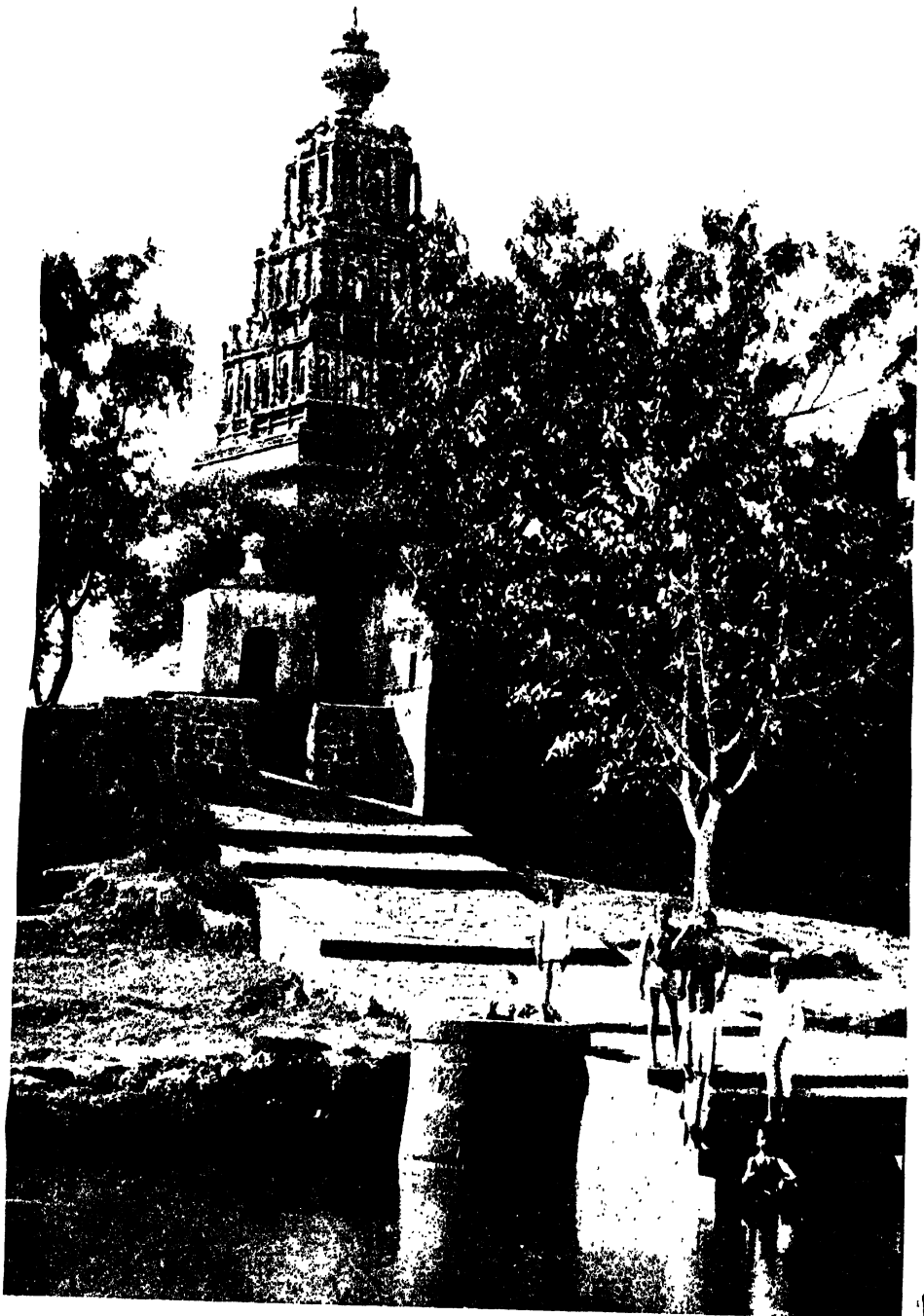
Geologically Cutch is one of the most interesting regions in India, a considerable part of the country, including the Runn, being covered by recent deposits, some alluvial, others partly so and partly fluvio-marine, while others again,



Realistic Travels

ELEPHANT GLADIATORS MEET IN GIANT COMBAT

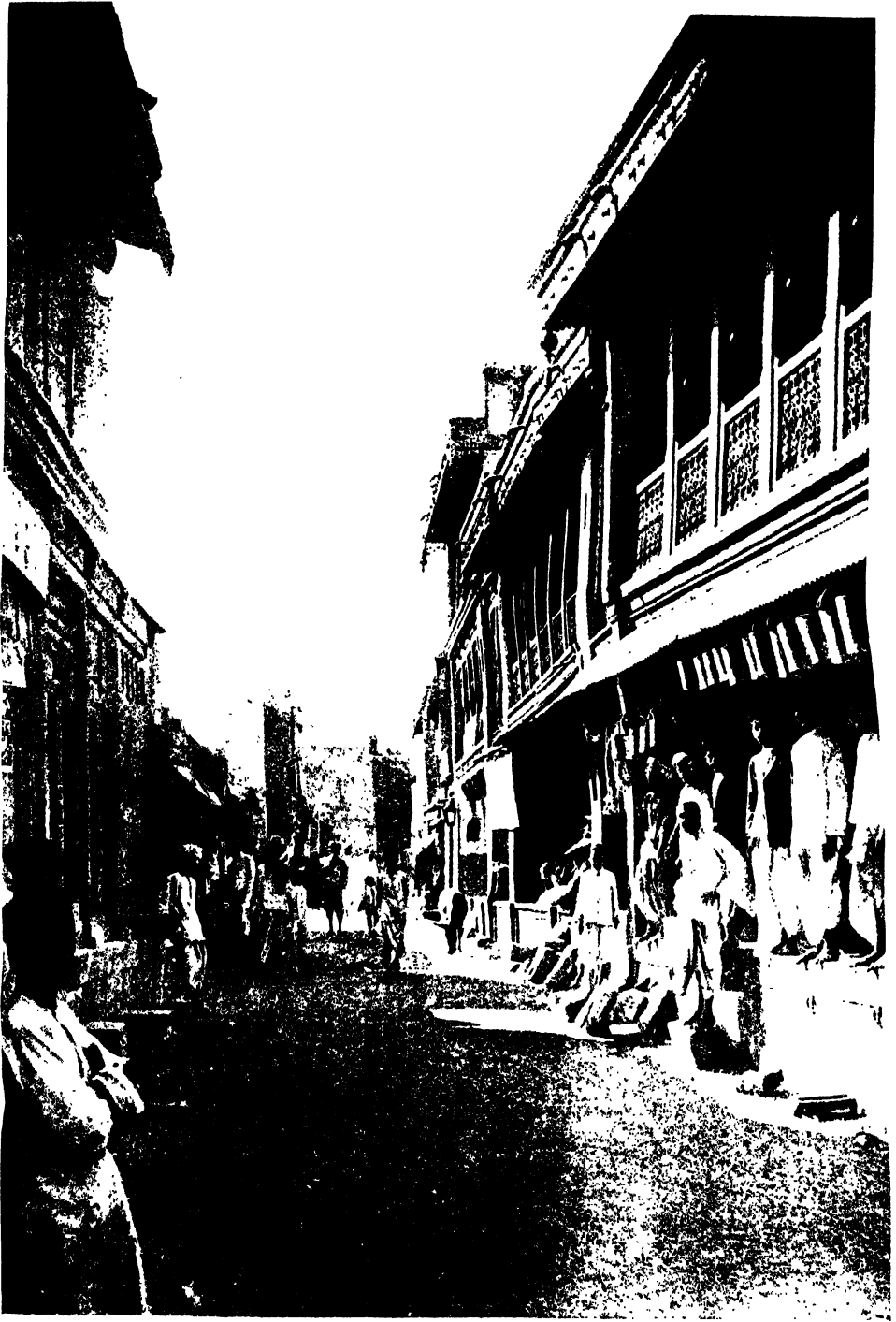
Baroda is ruled from its capital of the same name by the Maharaja Sayaji Rao Gaekwar, commonly known as the Gaekwar of Baroda, a potentate of advanced and enlightened views. The spectacular contests between elephants which take place in his palace grounds are famous, and here we see two, with blunted tusks, engaging in a tussle; on the back of each is the attendant "mahout"



REMOTE MARATHA SHRINE OF THE HINDU GODS

F. Deaville Walker

At Sanganner on the Pravara river, a tributary of the Godavari, and about 100 miles north-east of Bombay is found this Hindu shrine. The temple is one of hundreds that dot the landscape of the Maratha country, a district which through lack of communication is remote from centres of Western civilization. Before worshipping, pilgrims descend the steps to purify themselves by bathing



AMENITIES OF MODERN LIFE IN SANGAMNER

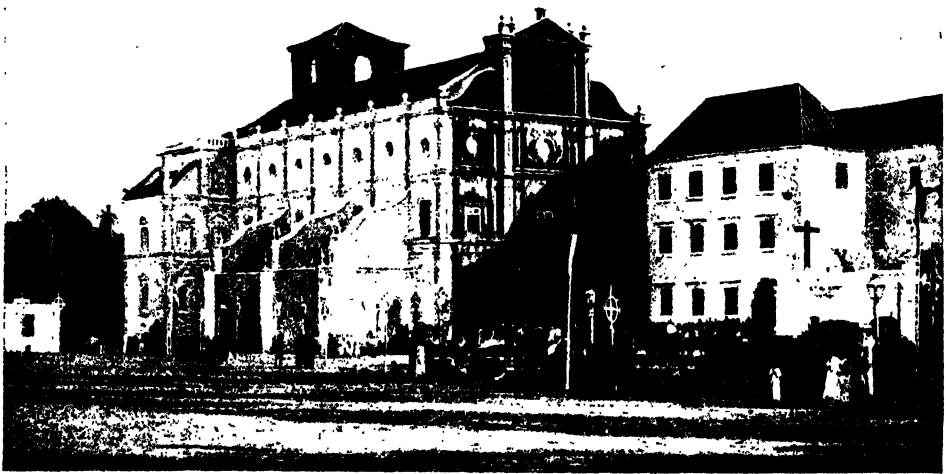
F. Deaville Walker

A vivid light is shed on the effect of settled rule in India by this photograph of a Maratha street scene. As explained in the opposite page, Sangamner is in the wilds of a district still difficult of access, and even there is not one of the most important towns; but street-lamps, printed advertisements and houses well built of brick and wood all testify to a high standard of living

such as the sand-dunes and the curious calcareous "sub-recent" concrete, are accumulations of wind-borne material. Alum and saltpetre are produced and the Karimori hills furnish strong and tough mill-stones and good building stone, while a yellowish marble is quarried for export.

The trade of Cutch is mostly sea-borne, imports being chiefly raw produce, grain, butter, groceries, fruit and

into the Arabian Sea, in extreme length 220 miles, in breadth 165 miles and in area 23,445 square miles. It is bounded on the north by the Gulf of Cutch, on the west by the Arabian Sea and on the south by the Gulf of Cambay; and the belt of salt lands and the long lagoon of the Nal which form the boundary on the east between it and Gujarat suggest that at some earlier period the waters of the Little



SHRINE AND TOMB OF A FAMOUS MISSIONARY OF THE MIDDLE AGES

Surrounding a square in old Goa named Pelhourina are several Christian churches and convents. Of these the most important, that of Bom (the Good) Jesus, is illustrated here; its handsome façade abuts on the Convent of the Jesuits, seen on the right. The church is celebrated through all India because it contains the body of S. Francis Xavier, the famous missionary of the sixteenth century

timber, iron, brass and copper ware, cloth, furniture and ivory; and exports are alum, cotton, millet, pulse, garlic, clarified butter, black-coloured cloth and silver work. Cutch is noted for its beautiful embroidery and silk and silver-work, and has both ginning factories and cotton presses. Owing to the want of made roads most of the country becomes impassable during the rainy season, but there is a small line of railway from Bhuj, the capital, to Tuna, a point on the Gulf of Cutch, which facilitates trade, and there are various small ports along the Arabian sea coast.

The peninsula of Kathiawar projects westwards from the Indian mainland

Runn of Cutch met those of the Gulf of Cambay and made Kathiawar an island.

With the exception of some 1,200 square miles of territory which belong to the neighbouring Gaekwar of Baroda, a like amount which belongs to the district of Ahmadabad on the mainland, and the little island of Diu, 20 square miles in extent, which belongs to the Portuguese, Kathiawar is native state territory and forms a political agency subordinate to the government of Bombay. It consists of 193 separate states, the most important of which, having each their own ruler, are Bhavnagar, Dhrangadhra and Navanagar. In aspect it is undulating, with low



H. S. Talbot

INDIAN BULLOCK, BEAST OF MANY BURDENS, AS A WATER-CARRIER

The Indian domesticated cattle are of the humped and horned species, and are never killed for food as the Hindu strictly abstains from beef in any form. Ploughing and hawking are chief among the manifold uses of the bullock, but it is also employed as a pack animal, while in certain parts the trotting bullocks rival the speed of a pony and are in much demand for wheeled conveyances.



WATER BUFFALOES COME DOWN TO DRINK IN THE GODAVARI

East of the Western Ghats, to the north of Bombay, lies the high tableland of Nasik. Hilly in the west, it is open and well cultivated in the east. The country is well watered in all parts, and all the streams south of the Chander range run eastwards as tributaries of the Godavari river, whose even course through flat ground is typically illustrated above; the animals are water buffaloes.

ranges of hills extending irregularly. In the north, apart from the Thanga and Mandav hills west of Jhalawar and some low hills in Halar, the country is flat. In the south is the Gir range and at Girnar there is an important granitic mountain mass, with its highest peak 3,500 feet above sea-level. Opposite is the solitary hill of Osani and farther west the Barda group of hills. The Bhadar, rising in the Mandav hills, is the principal river and flows south-westwards to the sea at Navibandar, its course of 110 miles marked by well cultivated lands on either side. The Shetrunji is famed for its wild and romantic scenery.

Poor Roadsteads of Kathiawar

Although it has such a length of coastline Kathiawar has no good harbour, except at Beyt at the entrance to the Gulf of Cutch and at Bhaunagar. It has ports at Vavania, Jodiya, Bedi, Salaya, Navibandar, Mahuva and Dholera, but all are on creeks and are dependent upon tidal conditions, and Porbandar, Jafarabad, Veraval and Diu are simply open roadsteads. The most important salt-water creek is that of Hanstal, which connects the outer and inner Gulf of Cutch.

The peninsula has no lakes worthy of the name, but the Runn of Cambay, a shallow rocky channel, runs north-west about 35 miles from the upper end of the Gulf of Cambay, joins a marshy tract known as the Nal on the other side of Kathiawar in the rainy season and forms a connected sheet of water over the Bhal and Nalkantha tracts, cutting off communication with Ahmadabad.

Prosperous Agricultural Land

Kathiawar has a climate that is not at all unhealthy and is often pleasant, excluding the period from September to the beginning of November, which is healthful for neither Europeans nor Indians. January, February and March are cool, with heavy dews and thick fogs, and the hot season, which begins

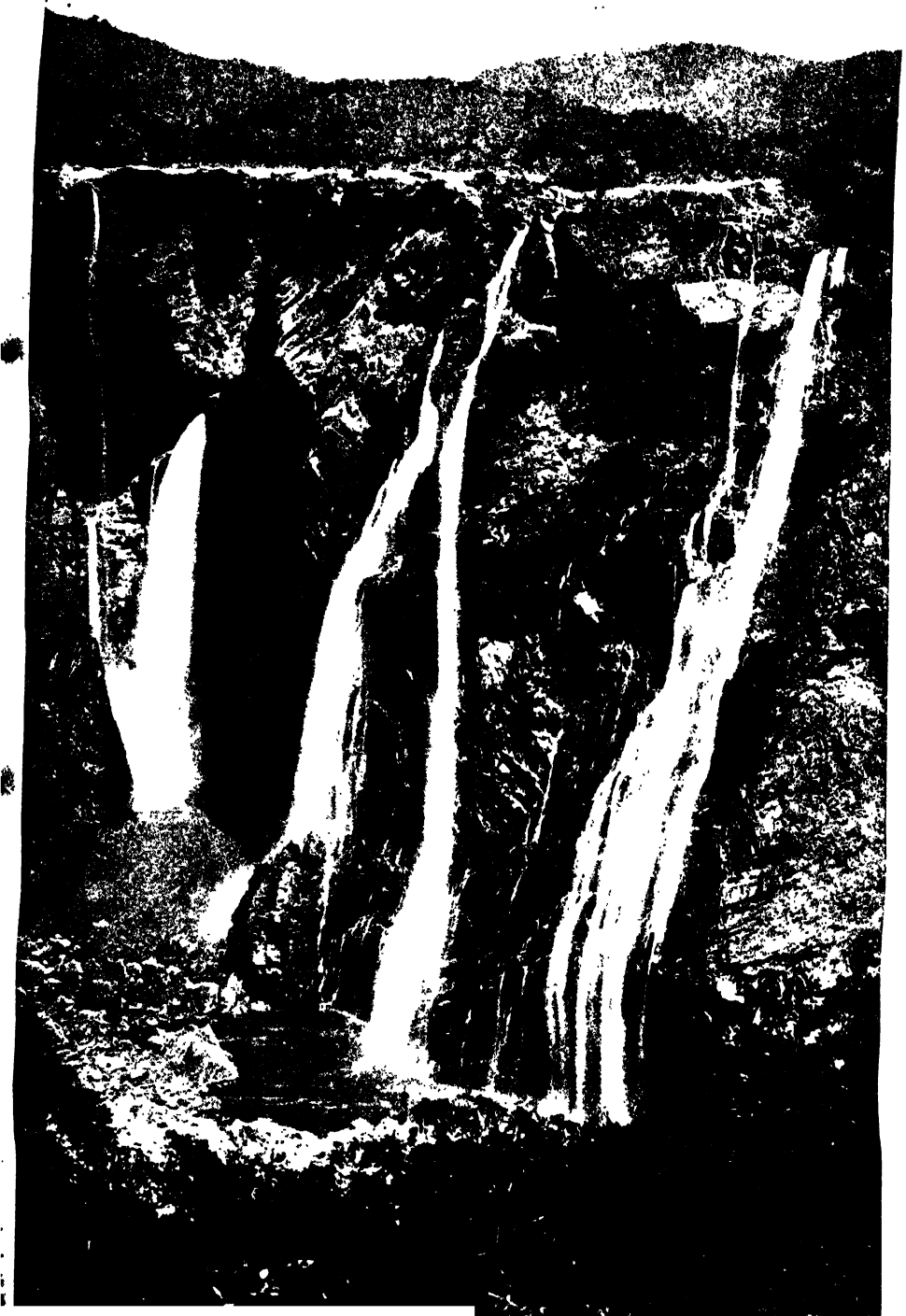
in April and lasts until the rains commence in June, is the healthiest. The heaviest rainfall, 42 inches, occurs at Junagarh in the Sorath division; the wet period lasts from June to October.

Together with a moderate rainfall and fairly temperate climate and numerous streams, ponds and wells, Kathiawar has a soil of good quality, depth and texture, and hence it is a prosperous agricultural country and its vegetation, though not prolific, is abundant. It is thinly wooded, however, except in the Gir region, where there are 1,500 square miles of forest, though other important wooded tracts exist. Lands are set aside specially for the growing of timber; thus in several parts plantations of babul have been formed.

The soil is of two principal classes, red and black. The latter, known as kampal, is used for cotton and the former, which is less valuable, is cropped with barley. The Bhadar river tracts yield sugar-cane and excellent fruits and vegetables. Sorath is noted for betel-vines, grain and cotton and Gondal and Jhalawar for cotton; Halar gives excellent bajra, jowar, wheat and other grains and along the east coast wheat, cotton and grain are produced from a soil which requires no manure. There is a considerable amount of irrigation mostly from storage tanks.

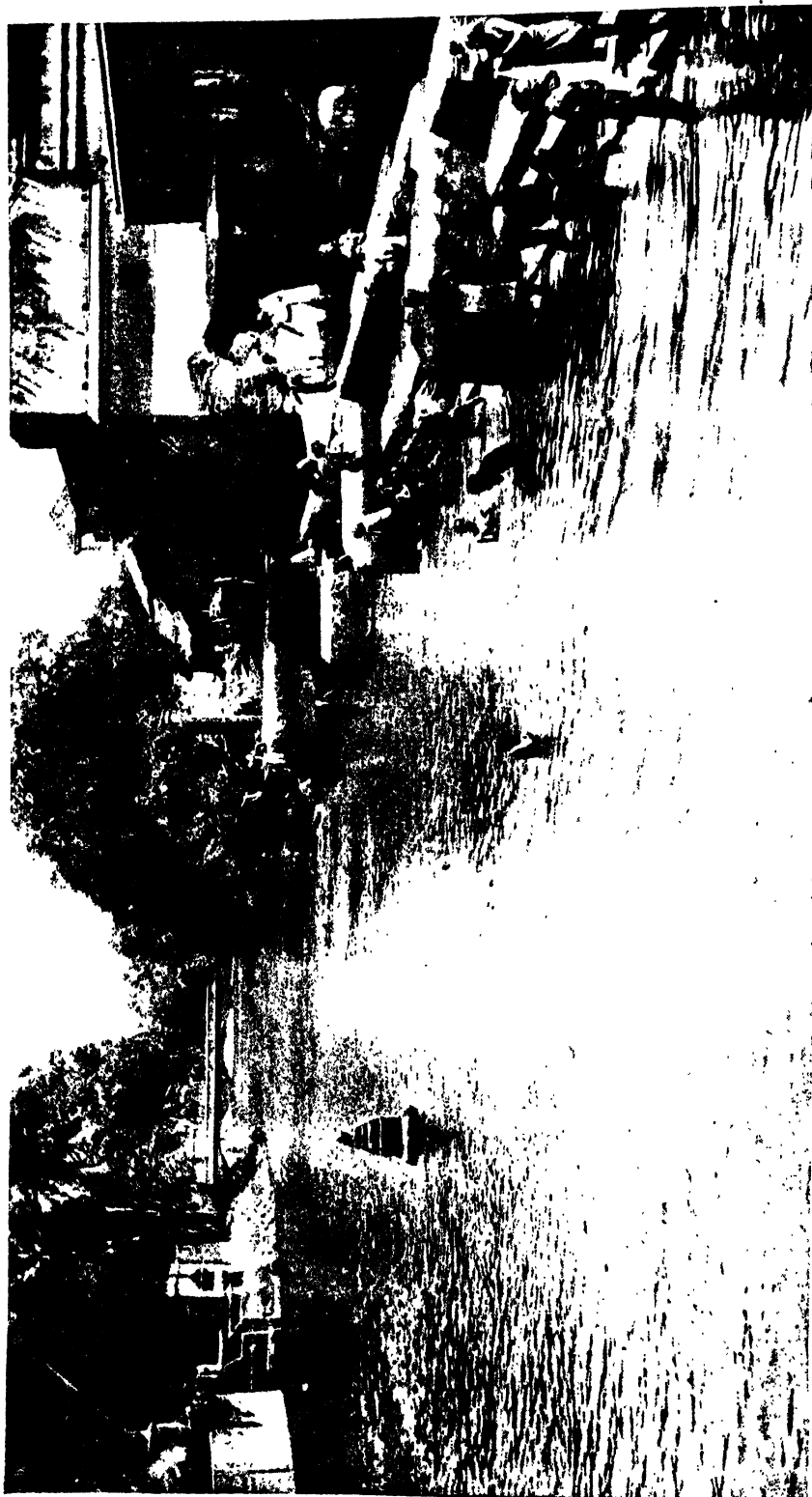
Last Refuge of the Lion in India

With regard to fauna, Kathiawar is famous as the last refuge in India of the lion. Once common all over the peninsula and extending into Gujarat and Central India, it exists to-day only in the Gir forests and, rarely, on the Girnar mountain. Shorter in mane and lighter in colour than the African lion, it approximates in size to the tiger, but is heavier and stronger. Unlike the tiger, it does not try to conceal its escape when disturbed but walks boldly away. It is gregarious in habit and moves about in family parties. From being nearly extinct, careful preservation has raised the number of lions in Kathiawar to nearly a hundred.



CATARACT OF UNRIVALLED BEAUTY IN INDIA: THE GERSOPPA FALLS

In the North Kanara district of Bombay, the Sharavati river breaking through the Western Ghats courses swiftly westwards. Eighteen miles east of the village of Gersoppa the river, now 230 feet broad, plunges over a cliff 830 feet high and descends in four separate cascades known as the Raja, the Roarer, the Rocket and the Dame Blanche. The pool into which the Raja leaps is 132 feet in depth.



PILGRIMS ENGAGED IN RITUAL BATHING IN THE SACRED GODAVARI RIVER AT NASIK

Temples and shrines line the banks of the Godavari at Nasik, 107 miles north-east of Bombay, which being only 30 miles from the source of the great river is the object of many religious pilgrimages. Here, too, are many "chats" (ceremonial steps to the river) like these for bathers, with an occasional shrine, such as is seen above, in the actual bed of the river. In addition to being an important road centre the town lies on the railway from Bombay to Delhi and has considerable manufactures of cotton goods, brass and copper wares; its population is over 900,000.

Other wild animals include the leopard, hunting-cheetah, antelope, wild hog, hyæna, wolf, jackal, wild cat, fox and porcupine. As for reptiles, many snakes exist, and the crocodile and tortoise are common. Among the domesticated animals, horses are bred in large numbers and have a good name. Milch cows and buffaloes are reared in the Gir; sheep, too, are plentiful in some parts.

Basalt beds belonging to the Deccan trap occupy the greater portion of the peninsula. They lie almost horizontally and have been deeply denuded, so that countless numbers of intrinsic dikes have become visible in every district. The older rocks in the north belong to the lower and upper cretaceous and a belt of recent alluvium follows the southern coast, while there are large stretches of alluvium on the east near the Gulf of Cambay and in the north near the Little Runn of Cutch. Kathiawar abounds in minerals and is particularly rich in building stone. Iron is the chief metal. Pearls of good quality are found in the Gulf of Cutch, red coral occurs at Sil and Mangrol and bloodstone near Tankara in Morvi.

Most of the people are agriculturists, many are also fishermen and a fair number are engaged in maritime transport; but Kathiawar has cotton mills and presses and a prosperous trade in timber, and its crafts comprise gold and silver thread making, the weaving of silk and brocades, the manufacture of fragrant oils, sandal-wood carving and ivory inlaying. The organization of the village community has still considerable vitality in Kathiawar.

The export trade is primarily that of cotton, sent to Bombay and estimated at a sixth of the amount Bombay receives for re-export. Imports consist largely of bullion, grain, cotton-cloth, sugar and molasses. Railways absorb the greater part of the export trade, these traversing the peninsula in all directions and being connected with the Bombay, Baroda and Central India Railway on the mainland.



R.V. H. L. Barrell

SCENE IN THE WESTERN GHATS

In the Portuguese territory of Goa, 15 miles from Castle Rock Station on the West Indian Portuguese Railway, is found the famous waterfall of Dudhi Sagar, or "Sea of Milk."

The most important towns are Dhrangadhra, Bhaunagar (the principal cotton export centre), Navanagar, Junagarh (extremely picturesque with an interesting old citadel), Rajkot, Dhoraji, Porbandar, Gondal, Morvi, Mahuva (noted for its mangoes), Veraval, Wadhwan (an important railway junction) and Diu, Nuno da Cunha's isle.



H. H. Roskin

VILLAGE LIFE AND A VILLAGE WELL IN THE UPLAND SCENERY OF AHMADNAGAR DISTRICT

From this tank or well the inhabitants of one of the tiny villages on the outskirts of Ahmadnagar obtain all their water. Clothes are always washed in a river or at a separate well, but it is permitted to scow domestic utensils at the village tank; and that is what the villagers above are doing. These utensils, of solid hand-beaten copper or brass, are of varied and graceful shape, as may be seen; since their polishing is regarded as the most important household duty they are always in a state of spotless brilliance. Ahmadnagar is almost due east of Bombay City but on the farther side of the Western Ghats

If for nothing else, Kathiawar is worth a visit for its memories of a mighty past—the world-famous rock edicts of Asoka carved on a gigantic granite boulder between Junagarh and Girnar or the Buddhist rock-hewn caves of Junagarh first mentioned by the Chinese traveller Hiuen Tsiang in the seventh century. The Jain temples high up on Mount Girnar are revered alike by Hindu, Buddhist and Jain; and in the State of Palitana the hill of Satrunjaya, most sacred of the five sacred hills of the Jains, has its entire summit covered with temples, some of them eight hundred years old.

Gujarat proper, that is the mainland portion without Cutch and Kathiawar, includes all the territory south of Sind and north of Thana district between the Marwar desert, the Rajputana hills, the Khandesh highlands and the Western Ghats on one side and the Arabian Sea on the other, a region with a population of 7,000,000. Of this, only about a fourth belongs to British India, the rest being divided among the State of Baroda and various lesser Indian states comprised in the four Agencies of Mahi Kantha, Rewa Kantha, Cambay and Palanpur; and the British district of Surat may be included.

Fertile Soil of a Land of Plains

The central plain has some of the most fertile soil in India. From the foot of the high hills of crystalline rock which run south-eastward from Mount Abu the land, which is rocky and well wooded only near the hills, slopes gradually without rock or eminence to the Rann of Cutch, the Nal lagoon and the Gulf of Cambay, near each of which the ground turns salt or sandy.

The gulf of Cambay breaks the coastline boldly and there are estuaries at the mouths of the Narbada, Tapti and some smaller rivers, but the gulf has silted up and there are no good harbours.

Gujarat is a land of plains; the mountains found within it are merely spurs of chains outside its territory and they are wild and generally

inaccessible so that Gujarat has no hill stations. Its health resorts are all outside its frontiers except for certain seaside spots beloved of Indians. Spurs from Rajputana strike into Panch Mahals and Mahi Kantha, and the diminished ends of the Satpura range are thrust between the Tapti and Narbada rivers. The Navsari "Prant" (district) of Baroda has hills up to 2,000 feet above sea-level and the fortified peak of Salher (5,263 feet); while the surge of the Western Ghats breaks up the country south of Surat. All the rest is level plain, intersected by streams and rivers meandering slowly in wide, deep sunken beds.

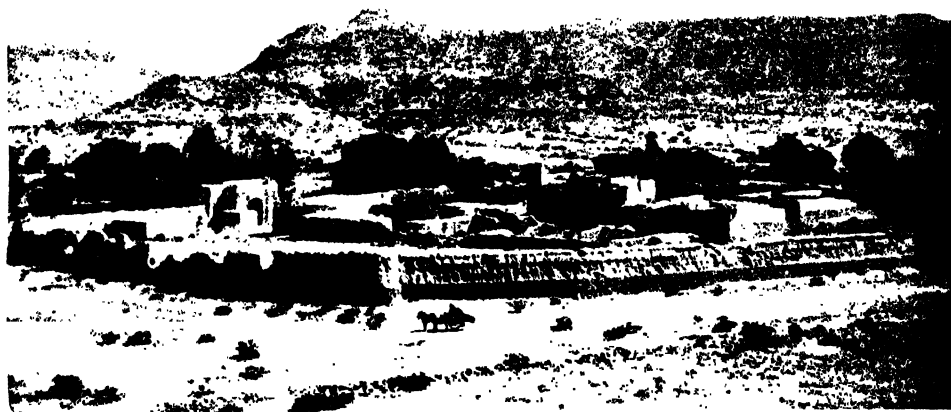
Pasturage Watered by Many Rivers

In the north, for instance, the pasture lands of Palanpur are watered by two streams, the Banas and the Saraswati, flowing from the Aravali mountains to the Little Rann of Cutch. The central districts have a number of small rivers of which the most important are the Sabarmati on which stands the city of Ahmadabad, the capital of Gujarat, and the Mahi which has given its name to the Mahi Kantha (Banks of the Mahi) Agency. These flow southward to the head of the Gulf of Cambay. The Narbada crosses southern Gujarat from east to west and flows into the sea near Broach; the Tapti enters the sea a little to the north of Surat.

How Alluvial Gujarat is Irrigated

Nearly all the streams and rivers flow in sunken beds and so are of little use for irrigation, but from some of their tributaries there is irrigation by means of canals. Irrigation from tanks and reservoirs is largely practised but in most parts is limited to the cold season when water is needed for the rice crop to ripen.

The greater part of Gujarat is an alluvial plain, the covering of alluvium being of no great depth. The Deccan trap, which reappears in Kathiawar, crops up occasionally. The soil is black, brown or light, the black



F. Deville Walker

WALLED VILLAGE IN THE MARATHA COUNTRY

Away beyond the Western Ghats lie the great plains of the Deccan, and it is in the barren hill country between the two that such villages as this are found. Before British rule there was little security here for life or property; warfare continued unceasingly; brigands were numerous. The villages, like the cities, had walls. Nowadays such fortifications are useless and, as in the photograph, fall into decay.

predominating. The chief black-soil crops are cotton, rice and cereals, while bajra, jowar and pulse are chiefly grown upon the lighter soils. Tobacco, said to be the best in Western India, is grown in Kaira district, also in Broach by the Narbada river. Sun-hemp is raised in Palanpur and sugar-cane in Palanpur and Surat. Castor oil is extensively grown in the south of Surat.

The only forests of value are found in Palanpur and in the Rewa Kantha Agency; but the cultivated plain abounds in handsome shade-trees, giving it a park-like appearance. In general the varieties of trees are not very different from those found farther south and already described; many are of commercial importance. The fauna, too, does not differ markedly from that which abounds in the region as a whole.

Gujarat is not rich in minerals. In the hills of the Panch Mahals district there is lead, iron, mica and manganese. Mica, manganese and talc are found in Rewa Kantha. Deccan trap rock, granite and sandstone are quarried in Panch Mahals and Baroda, while the green marble of Motipura in Baroda is regarded almost as a precious stone. There is iron stone in Surat but no iron

is worked. Agate or cornelian is found in Ahmadabad and Rewa Kantha and worked in Ahmadabad city, Rajputana, Baroda and Cambay. The calcareous sandstone quarried at Ahmadnagar and other places in the Idar State in Mahi Kantha ranks among the finest building stones of India. The lime used in preparing the fine stucco seen on Delhi buildings comes from the Idar mountains. Granite, gneiss and crystalline marble occur in Mahi Kantha. Salt is made from brine found underground in Ahmadabad district and from sea-brine in Surat district.

Gujarat has a brisk cold season when even frost is not unknown, and oppressive heat in summer. Extremes of temperature are most marked in Palanpur and least in Surat; the coldest month is January, the hottest April. The average annual rainfall is from 20 to 30 inches; in Surat district it is heavier owing to the nearness of the Western Ghats. In seasons of rain shortage large numbers of the population are faced with famine, in seasons of excessive rainfall with destructive floods.

The principal means of communication is the Bombay, Baroda and Central India Railway and its branches. The

main line runs from Bombay up through Surat, Broach, Kaira and a district of Baroda State to Ahmadabad city where it meets the Rajputana-Delhi and the Kathiawar lines. There are some good main roads, but no navigable canals and practically no navigable rivers, with the exception of the Narbada and the Tapti. A considerable coasting trade in small vessels is carried on between the ports of Gujarat and those of Cutch, Kathiawar and the Konkan.

Agriculture is the principal industry and employs the greater part of the population. But every country town and village has its manufactures in the proper sense of products made by hand, and many towns have now one or more factories. Broach cotton and Surat silk are famous in the world of commerce outside India. Ahmadabad is the centre of a growing cotton mill industry

and is second only to Bombay among the factory towns of Western India. Broach also has its cotton mills, so has Nadiad in the Kaira district and several other towns in Gujarat. But more interesting and of more importance still are the ancient handicrafts.

Hardware is manufactured at Amod in Broach district; soap and glass in the towns of Kaira district, where calico-printing is also done on a large scale; pottery and earthenware, brass and copper work at Ahmadabad and Baroda. Cotton-cloth is woven everywhere throughout the country, silk chiefly at Surat, Ahmadabad, Baroda and Broach. Timber is the staple trade of Panch Mahals.

The towns of Gujarat were once walled; and though the fortifications are now ruined in most cases the division between town and suburbs is still clearly marked. The villages have



Rev. H. E. Barrell

PRIMITIVE HOUSES OF A NATIVE STREET OF SURAT

Formerly the headquarters of the East India Company, before it transferred its activities to Bombay, Surat, at the mouth of the Tapti river, still remains a town of considerable importance. It is the capital of the district of Surat which fringes the coast on the east side of the Gulf of Cambay, and has important rice, cotton and pulse crops. The primitive nature of the town is well shown here

BOMBAY & GUJARAT

generally a well-to-do appearance, due to the use of tiles instead of thatch for roofing and to the presence of fine shady trees. The typical Indian village is found in perfection in Gujarat where each class of the population has its special quarter. The landowners live in the middle with their tenants grouped around them.

The chief city is Ahmadabad, 50 miles to the north of the head of the Gulf of Cambay. The Mahomedans, for so long the rulers, are now, with the exception of a few rich families, weavers, artisans, peons and mill-hands. The town is built in blocks called *pōls*, some consisting of as few as six, others of hundreds of houses. The architecture, which is famous, is a mixture of Saracenic with Jain and Hindu, even in the mosques. The Jama Masjid (or Cathedral Mosque) is most remarkable, with its columns and marble-paved court with five domes around it.

Surat was for long the greatest seaport in all India. To-day it is reduced to rather less than third-rate rank. The city stands most picturesquely where the Tapti river bends suddenly to sweep westward towards the sea. In the middle of its river-front rises the castle, an irregular mass of fortification flanked at each corner by a huge round tower. The city stretches for a mile and a quarter along the left bank of the Tapti and about a mile upstream is the old town of Rander.

BOMBAY AND GUJARAT: GEOGRAPHICAL SUMMARY

Natural Divisions. As a whole, the north-west corner of the Deccan, one relic of the ancient Gondwanaland; in this respect in striking contrast with the riverine alluvial and deltaic Bengal. In detail, the narrow coast strip west of the Western Ghats; the inner eastern side of the Western Ghats, with the beginnings of the plateau which slopes away to the east; the peninsula of Cutch; the peninsula of Kathiawar; and lowland Gujarat.

Climate and vegetation. Monsoon climate, with three seasons. Heavy rains on the coast strip, with 200 inches a year in places in the south, but less rainy east of the Ghats and in the north. Jungle forests in the wet areas. Arid Cutch lacks trees, and has jungle grass amid

Two lines of fortifications once encircled Surat, and these are still clearly traceable. Within those lines the city is now rather sparsely populated, the suburbs growing out into the open fields. There are many notable old mosques and tombs at Surat and at Rander. The Hindu temples are all modern.

Baroda city in the Barod Prant is the capital of the Maharaja Gaekwar's dominions and is celebrated for its banyan trees and for its palaces and gardens. A clean, well lighted town with good roads and a good water supply, it is yet enclosed by ancient walls. The population of 94,712 is employed chiefly in handicrafts. The Baroda College is a very handsome building and there are hospitals, state offices, schools, a high court, a library, a museum, a zoological garden and a public park, beside a multitude of Hindu temples.

Cambay was once a great seaport like Broach and Surat, but the silting of the gulf and the prevalence of a dangerous bore or tidal wave have made it inaccessible to ships of any tonnage. And there are many other towns in Gujarat, some of them, such as Nadiad in the Kaira district, being of rising manufacturing importance. Indeed, with the revival of hand weaving and the institution of small village factories, Gujarat is on the way to recover that prosperity which earned it for so many centuries the name of the Garden of India.

barren wastes. Kathiawar has more trees and mangroves on the south coast.

Products. Khandesh and the Carnatic produce cotton and help to feed the cotton mills of Bombay city and Broach. The forests yield teak. Gujarat, the Bombay Deccan and the Carnatic grow millets, pulses and winter wheat. On the wet coast-lands rice and coconut palms are cultivated.

Outlook. The chief contribution of this area to the world as a whole comprises raw cotton and cotton goods. In view of the increased demand for cotton goods and the increasing risk of failure of the American cotton crop, much will depend upon improved cultivation and increased skill in manufacture.

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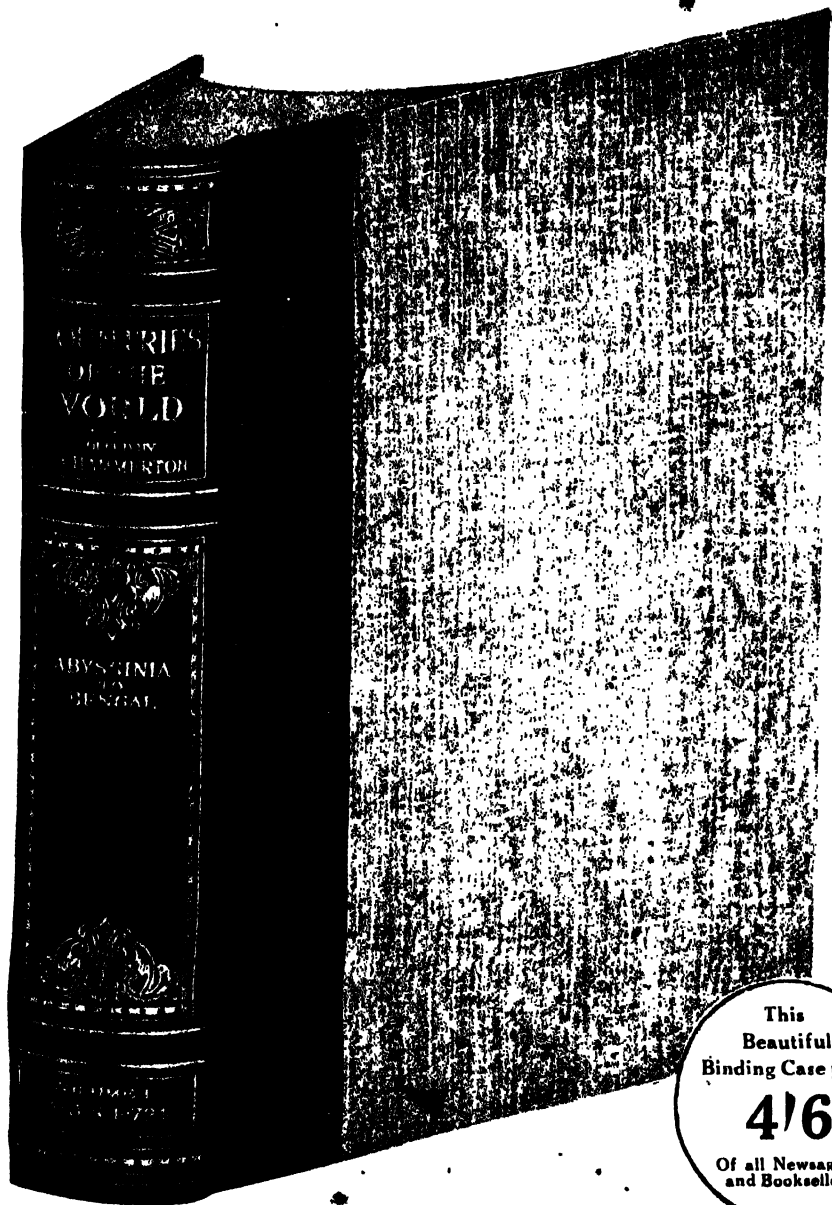
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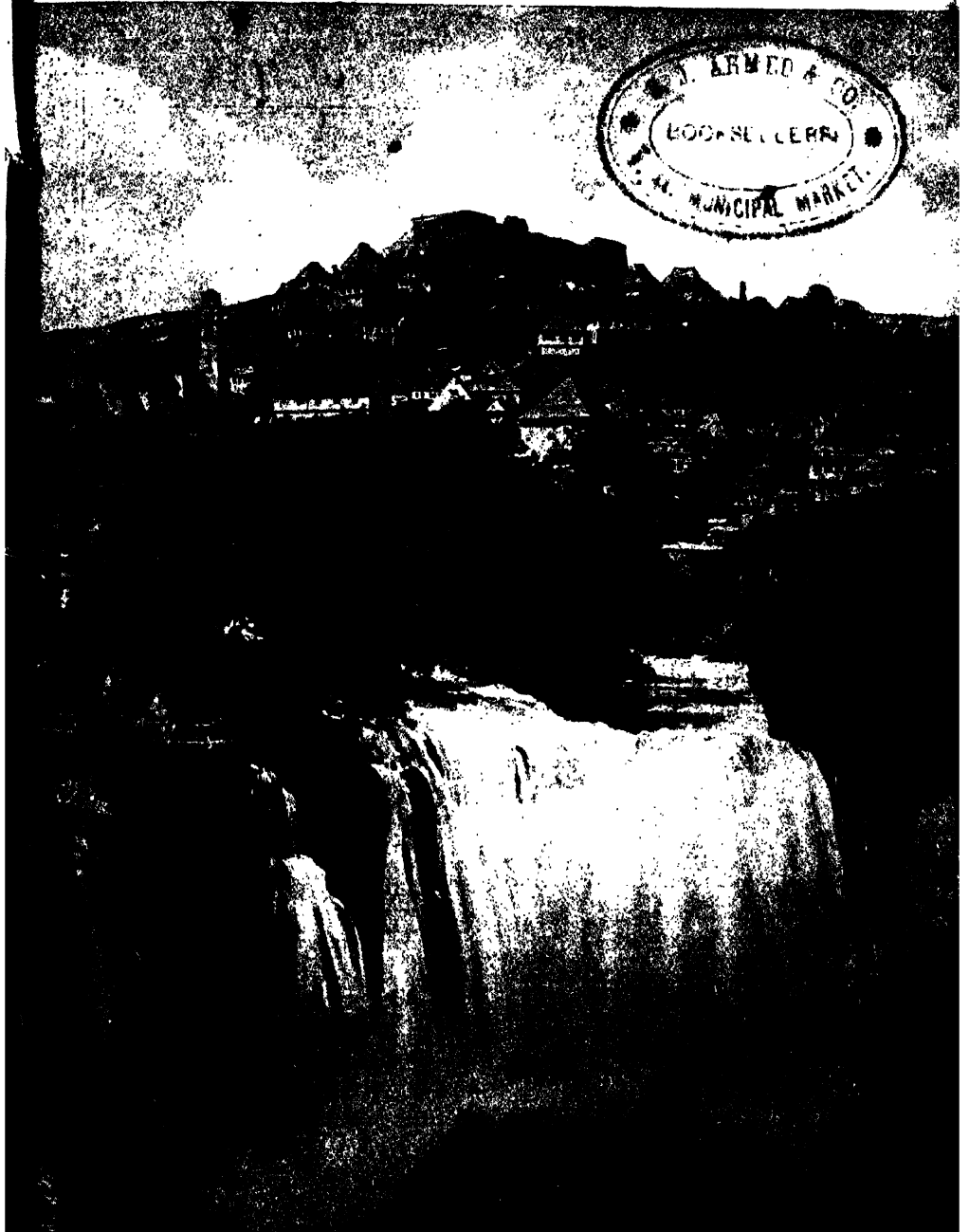
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9 COUNTRIES OF THE WORLD



Edited by J.A. Hammerton



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Contents of this Part

BOMBAY CITY	- Maps, Plan & 15 Photographs	<i>Marmaduke Pickthall</i>
BORNEO	- Map „ 47	Owen Rutter
BOSNIA & HERZEGOVINA	- „ „ 47	H. Gregorius Brown
BOSTON	- Plan „ 11	W. L. George

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From the Editor's Desk

THE FLEETWAY HOUSE, FARRINGDON STREET,
LONDON, E.C.4

IN the last Part I had but little space in which to comment on the contents of this one; and now I feel that those contents may well be left to speak for themselves. Boston at least, with its intellectual and literary traditions, need have no fears at being described by Mr. W. L. George, whom many rank among the foremost English novelists. His writings are especially popular in America and I can well imagine many Bostonians reading his chapter with great interest in order to see their own city through his eyes. His well-known lightness of touch will not disappoint them, and from my own knowledge of Boston I can state that he has painted a faithful picture of a town extremely hard to depict—a town of many diverse elements and yet with a sense of common pride that can be felt rather than put into words.

Contents of Part 10

QUITE apart from its practical utility there is, to me at any rate, a peculiar fascination about an alphabetical list—Brazil, Brittany, Brussels, Budapest! The qualities of each entry seem to leap into prominence by contrast with its neighbour. This is by the way, however; I was setting out to tell you the contents of the following Part. The two countries, Brazil and Brittany, are treated by Mr. F. A. Kirkpatrick and Mr. J. A. Brendon respectively; I think that the photogravure section illustrating Brazil, with its views of the Santos river which is accounted one of the loveliest waterways in the world, combined with the author's specialised knowledge of his subject will make a noteworthy contribution. Brittany, another beautifully illustrated chapter, shares the colour section with Brussels which is described by Mr. Gilliat Smith, while the second photogravure section adorns Mr. Walter Jerrold's description of Budapest.

MAPS are a subject that always seems to provoke acrimonious discussion, as anyone who has argued over a road-map with a travelling companion will know. Acrimonious, of course, is altogether too strong a word to apply to the charmingly worded constructive criticism of my correspondents, but there does nevertheless seem to be a measure of dissatisfaction in certain quarters with regard to our maps. One letter, which I will quote in full, runs as follows:

Dear Sir—May I just write you a short line in appreciation of your new work, COUNTRIES OF THE WORLD. It is extremely interesting and the illustrations are unequalled. But I would like to make one suggestion, if you do not mind, and that is in regard to the maps. These are shown in monochrome and the contours by shading. This shading, together with rivers, railways, etc., make these maps rather difficult to read, and in some cases it is not very easy to allocate the coast line only by following it for some little distance. As the work is geographical it would seem to merit special attention being paid to the maps, and I would suggest that the contours in the future maps be shown by the usual tones of green and brown, which would not hinder the printing of the towns, etc.; or else that a series of maps of the various continents and, if possible, countries be placed at the end of the work.

Please, sir, do not think that I am complaining at your efforts, which I am sure are very much appreciated, to please your readers, but I just offer the suggestion, which, I consider, would considerably improve a splendid work. The map in particular which has prompted me to write to you is that of the Atlantic Islands in Part 4; it is rather difficult to spot some of the islands, owing to the method adopted of showing the ocean depths, whilst if these were coloured the map would appear infinitely clearer.

Trusting that my letter will not "go against the grain," as it is not my intention that it should,

I remain, etc., FRANK HART.

4, Alton Road,
Waddon, Surrey.

[Continued on page iii of this wrapper

BOMBAY CITY

Island Capital of Industrial India

by Marmaduke Pickthall

Author of "Oriental Encounters," etc.

BOMBAY is an island artificially composed of seven islets, with a total area of 22 square miles, and is the southernmost of a group of flat and fertile islands close to the mainland of the Konkan, half-way down the west coast of India. It is joined by a causeway to the neighbouring island of Salsette.

The shape of Bombay island, stretching southward on the map between a noble inlet called "Bombay Harbour" and the open sea, is something like a lobster's claw, the two pincers of the claw being Malabar Point and Colaba Point, and Back Bay the deep curve between. In the seventies the city occupied only the base of the eastern half. To-day it occupies both pincers and practically the whole length of the island northward.

Though the coconut groves of Mahim and Matunga have a rural look, they hide a thickly populated growth of shanties. Parel, once a fashionable suburb, now rivals Oldham with its smoking chimneys, its factory hooters and its crowds of cotton-mill hands. At the north-east corner of the island there is still a stretch of salt marsh, and at the north-west corner a few acres of land not yet exploited. On the other hand the suburbs of the city now extend some way beyond the boundaries of the island, to Andheri and Thana in Salsette.

Enervating Climate of the Swamp

The climate of Bombay is of worse repute among Indians than among Europeans. It is not that there are great extremes of heat and cold, but that except when it is actually raining during the monsoon, and for a few

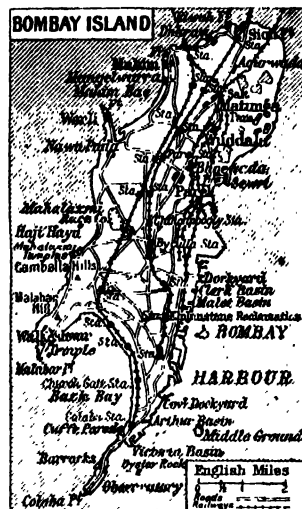
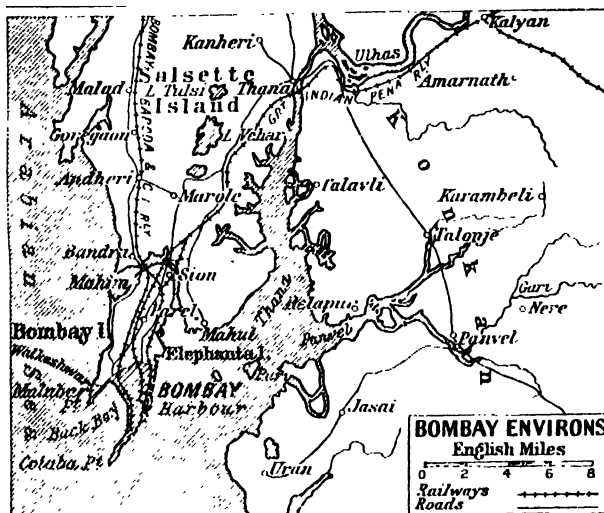
weeks in December and January when it has been said, "One catches cold because there is a draught occasionally," there is an equable, close, steamy heat inducing floods of perspiration upon slight exertion, and the malaria mosquito is both prevalent and active. The city has been largely built on swampy ground and something of the climate of the swamp adheres to it.

Royal Dowry for an English Queen

Small eminences like Malabar and Camballa hills, which catch a breath of air above the rest, are in demand for residence by those who can afford to choose. The population has outgrown the city, which to-day not only the capital of the Bombay Presidency and the chief port and business mart for western and central India but also the chief industrial city in all India.

The name Bombay (in Gujarati, Mombay) is derived from the name of the local Hindu goddess, Mombadevi, whose temple is still the most important building in the city for devout Hindus. The island was first colonised from the mainland by a people called Kolis. They were fishermen and farmers, and the present Bombay castes of fishermen and rural workers are descended from them. Bombay was conquered later by the Mahomedans and was attached to the Mahomedan kingdom of Gujarat until, with the other islands, it was ceded by Sultan Bahadur to the Portuguese in A.D. 1534.

In 1661 it passed from the Portuguese to the English Crown as part of the dowry of Catherine of Braganza, bride of Charles II. At the time when it came into the hands of the English



ISLAND AND CITY OF BOMBAY AND ITS SURROUNDINGS

the island had a population of about 10,000, chiefly in the north and centre, and yielded a yearly revenue of about 35,000 rupees. The fort which the English built for themselves near the harbour, the immense potentialities of which they were the first to recognize, and the Indian bazaar which sprang up at its landward gate, were the nucleus of the present city and still survive in local terminology.

In ancient days the chief city on Bombay Harbour was Puri in the island of Elephanta. In later times it was Kalyan upon a distant creek. Bombay itself can therefore boast of no antiquities. The original temple of Mombadevi has long disappeared; the present temple is a modern building, and so is the Great Jama Masjid or Cathedral Mosque (built in 1802). There is a Moslem shrine of some antiquity at Mahim and an ancient Hindu temple on Malabar Hill. But visitors in search of real antiquities make pilgrimage to the wonderful caves or rock temples on Elephanta, one of the many pretty islands in the harbour.

Bombay is the seat of government for the Bombay Presidency and the residence of the governor in the cool season. In the hot weather Government House is at Mahabaleshwar, a beautiful

hill station in the Western Ghats, and during the monsoon at Ganeshkhind near Poona. The Secretariat, the centre of all departments of the presidency administration, is a conspicuous building looking over palm trees to Back Bay.

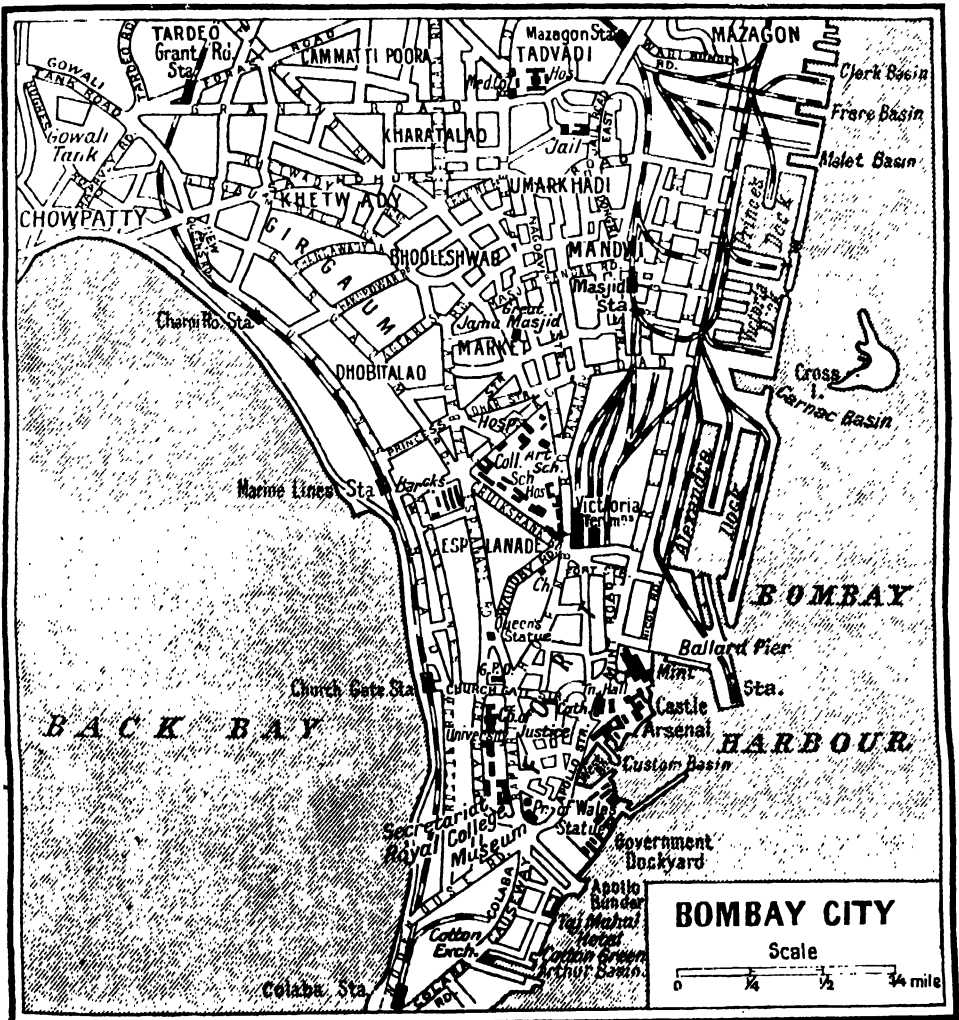
The university is the centre of higher education in the presidency, and the Court of Justice or High Court is the court of appeal and revision. It is also a court of first instance for causes arising within the island of Bombay itself. Most of the departments of local administration are in charge of the municipal corporation, a body which has a majority of elected members, Indian and European. It elects its own president and a standing committee to transact its ordinary business. Its chief executive officer, however, the Municipal Commissioner, is always appointed by the government.

S. Thomas's church, now the cathedral of the Anglican diocese of Bombay, was the grandest building on the island in the eighteenth century, which shows how modest was the city in those days. The nineteenth century was the age of public works. A chain of docks beside the harbour secured for the city first-class standing as a port. A water supply and drainage system were inaugurated, and the great markets were built with

nearly all the present public buildings. Of later buildings the most striking are the Prince of Wales's Museum, a mosque-like structure in the style of Bijapur, the Royal College of Science and the Taj Mahal Hotel, the largest hotel in India. The Gate of India, which is being built on the chosen landing-place of royalty, Apollo Bunder, is destined to rival the handsome Ballard Pier where the mail steamers go to land their passengers.

The harbour is the glory of Bombay. It is a magnificent expanse of water studded with a variety of islands, some mountainous, some flat, some barren,

others thickly plumed with palms. Seen from the city, it seems half-encircled by the distant, jagged rampart of the Western Ghats. The entrance, with its sunken rocks and rapid currents, was dangerous before the days of buoys and lights. Now it is an affair of simple piloting and, once inside, the largest ships have elbow-room. The P. & O., British India, Lloyd Triestino, Anchor and City Lines, which carry passengers between India and Europe, besides the local services to Ceylon, Karachi and the Persian Gulf and many cargo lines and smaller coasting vessels, use the harbour regularly, while crowds of

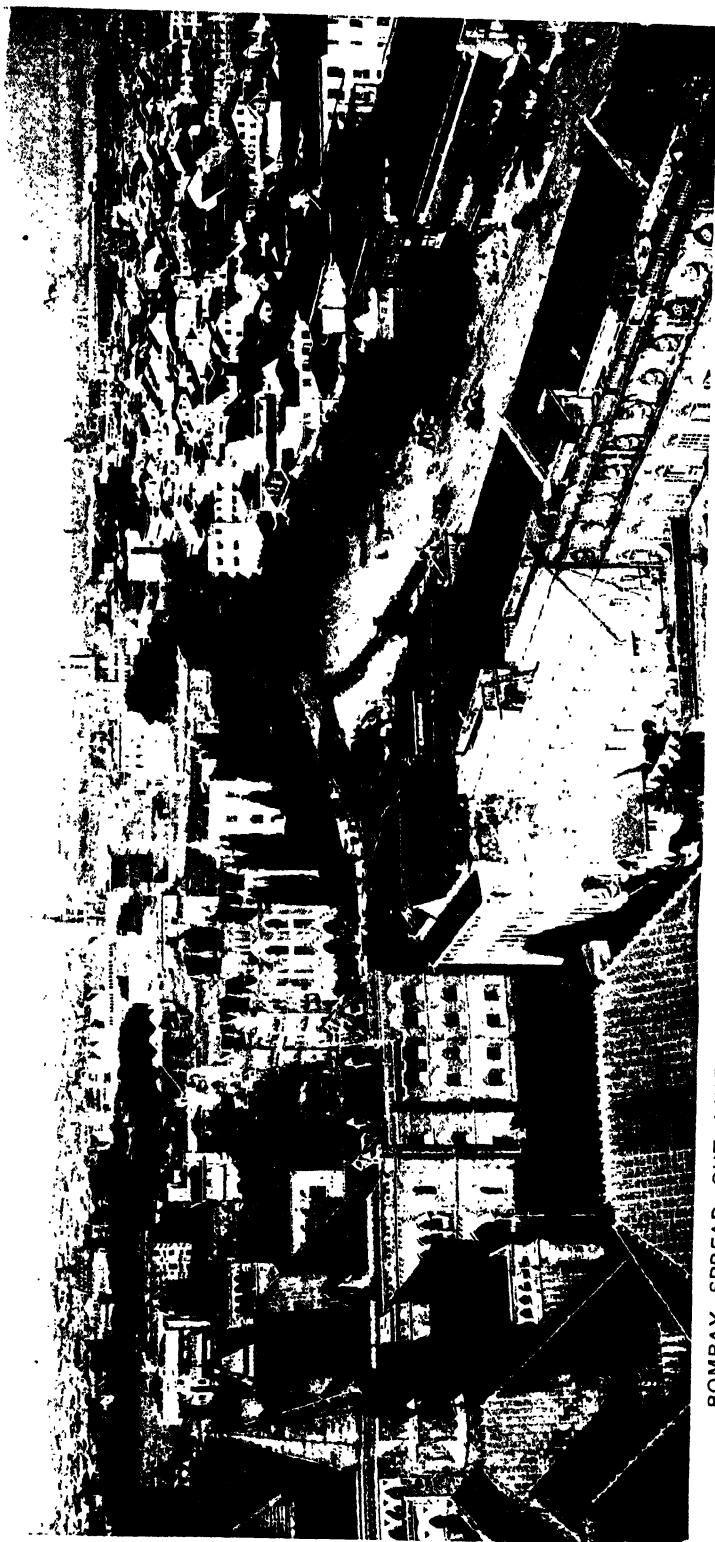


HARBOUR, DOCKS AND STREETS OF INDIA'S INDUSTRIAL CAPITAL



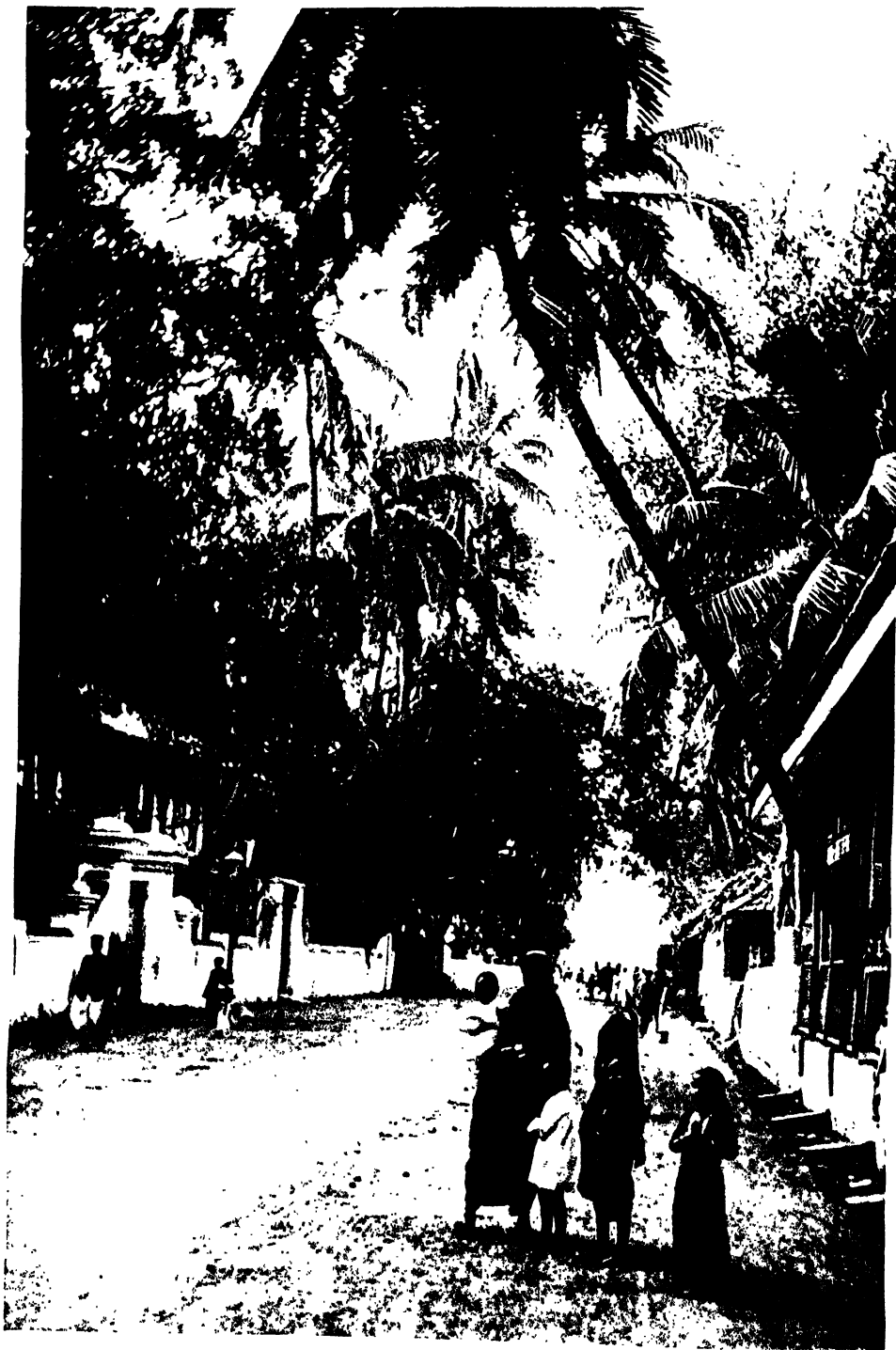
BACK BAY. A WIDE SEMICIRCLE OF BLUE SEA VIEWED FROM MALABAR HILL
 Malabar Point juts out westwards north of Regency as though in an endeavour to meet Colaba and cut off Back Bay from the sea; and from Malabar Hill a splendid view may be had over the tree-fringed bay and the houses, spires and factory chimneys of the great city. On the hill itself are several Parsee Towers of Silence set in a lovely park, the Hindu temple of Walkeshwar connected with legends of Rama, and at the very tip of the Point the Government House, used for this purpose since the old house in the Fort was vacated to make room for public offices

F. Deville Walker



BOMBAY SPREAD OUT LIKE A CARPET BELOW THE COMMANDING SUMMIT OF THE CLOCK TOWER E. S. A.

To him who ascends the 260-foot clock tower of the University Library, illustrated in page 833, a superb view of Bombay is presented. Northward to his left are the crowded roofs of the native city, and swinging round to the right his eye embraces a wide panorama, including the docks, the anchorage and the hills of Trombay and the distant mainland. Closer at hand are the domed tower of the Municipal Buildings and the great pile of the Victoria Terminus on its right; while almost beneath his feet is the Bombay Club fronting on Esplanade Road with the trees of Hornby Road following the line of sight into the distance.



VILLAGE STREET ON THE NORTH-WEST OUTSKIRTS OF BOMBAY CITY

Rev. H. E. Barrell

Mahim village lies in the midst of a forest of palms which are frequently seen, as here, growing right through the floor and walls of the native dwellings. The Mahim woods, which extend for miles, are a fairyland of beauty with their myriads of coconut, areca and targa palms. At the entrance to the woods stands an isolated Hindu temple devoted to the worship of Kali, consort of Siva.



SLOW BUT SURE: A BULLOCK REKLA IN A BOMBAY STREET

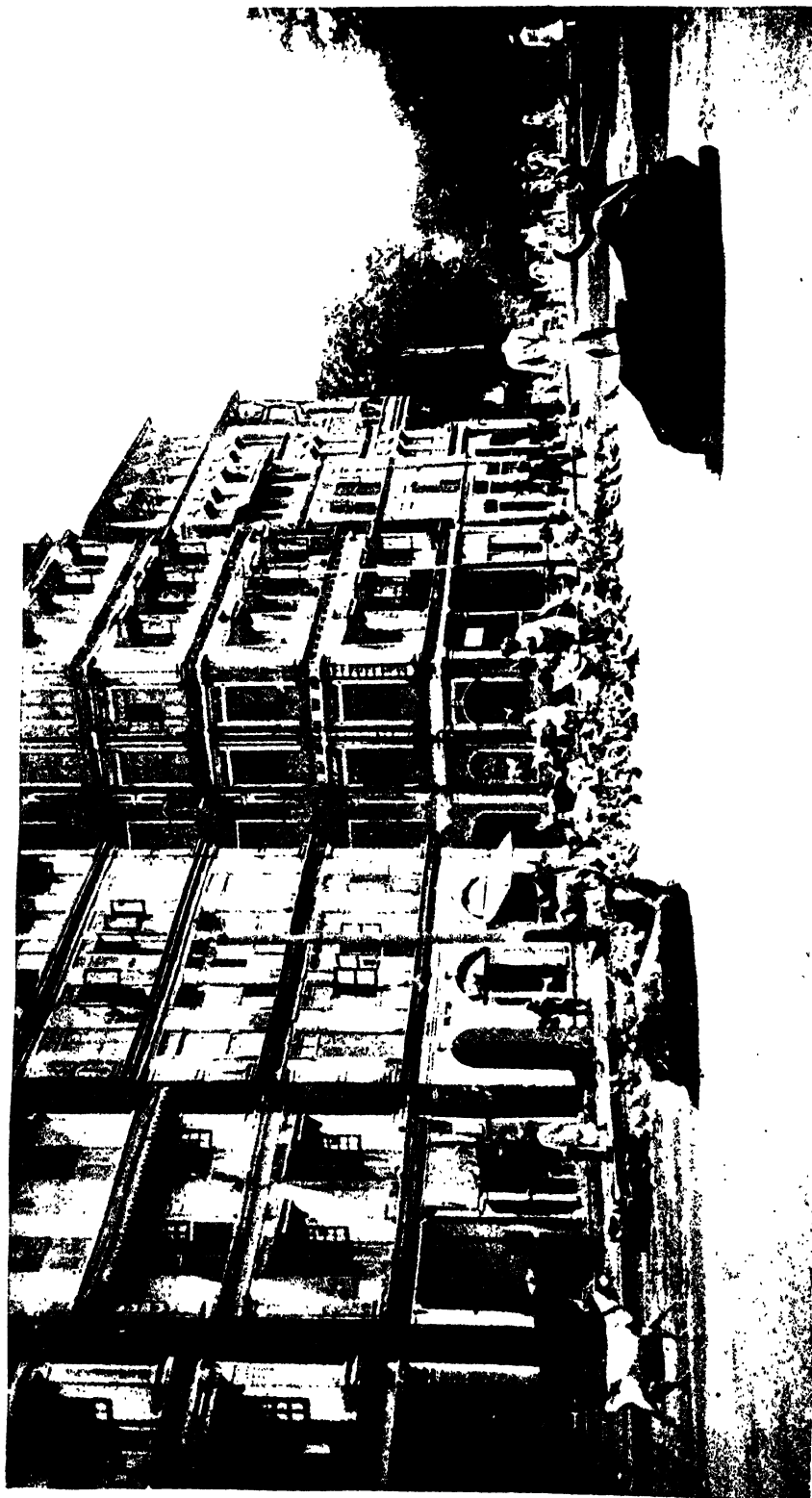
Taxicabs ply through India's great commercial city, but a form of conveyance less out of keeping with the spirit of the land may still be seen in the streets--the bullock rekla. There are two types, one entered from in front and one from behind; and the animals that supply the motive power are the ordinary Indian humped domestic cattle. The number of reklas, however, is fast diminishing.

absolutely free from illness for six months. The so-called winter, when there are cool breezes, is in December, January and February. In March the weather begins to stoke up, reaching its hottest in the months of May and early June. Then all the citizens who can afford it go to hill stations, of which there are several within easy reach; the nearest is Matheran, five hours distant.

About June 10, in ordinary years, the monsoon breaks in showers of rain, which are most welcome since they cool the air. The weight of rain comes generally in July, sometimes so heavy as to flood the streets knee-deep in running water. The rainy season lasts till the end of September. October is again as hot as May and more unhealthy, because the water left by the monsoon in unconsidered corners breeds myriads of mosquitoes. After that

the weather gradually cools again. The average rainfall is 75 inches. The average temperature ranges between 75.1° F. in January and 85.8° F. in May. The average diurnal range is 14.5° F. in January and 9.9° F. in May.

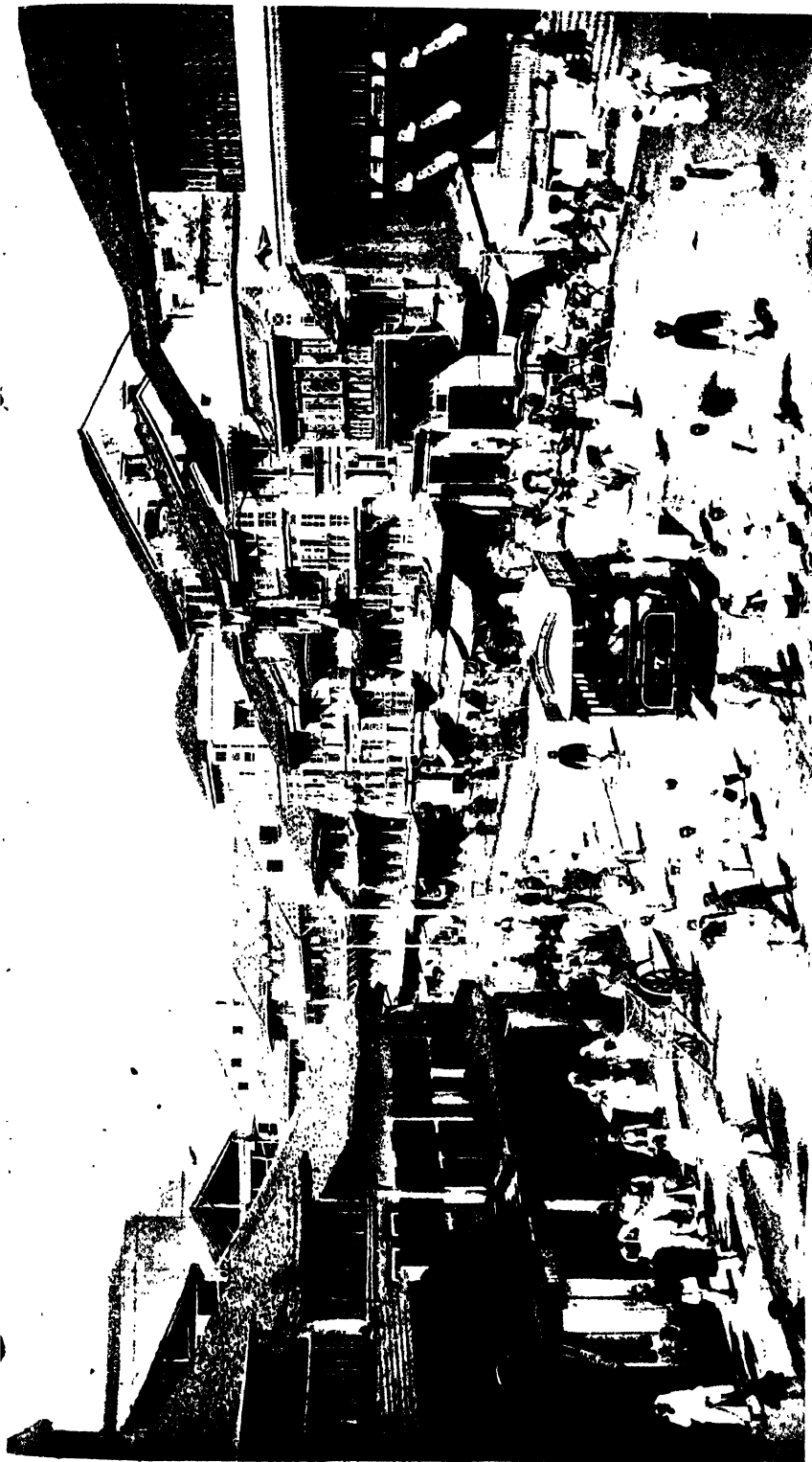
The population is composed principally of Hindus, but there are many Mahomedans as well as Christians, Parses, Jains and Jews. The Hindus are divided into many castes and sects so different as almost to amount to separate communities. Their temples are found everywhere throughout the island. Their influence is noticeable in the city streets where cows, an object of their worship, wander freely night and day, respected even by the tram and taxi-drivers. This Hindu community includes a multitude of mill hands, skilled and unskilled workers in all trades (excepting those connected with



H. H. Hoskin

SACRED COWS IN THE HEART OF THE BUSIEST QUARTER OF BOMBAY

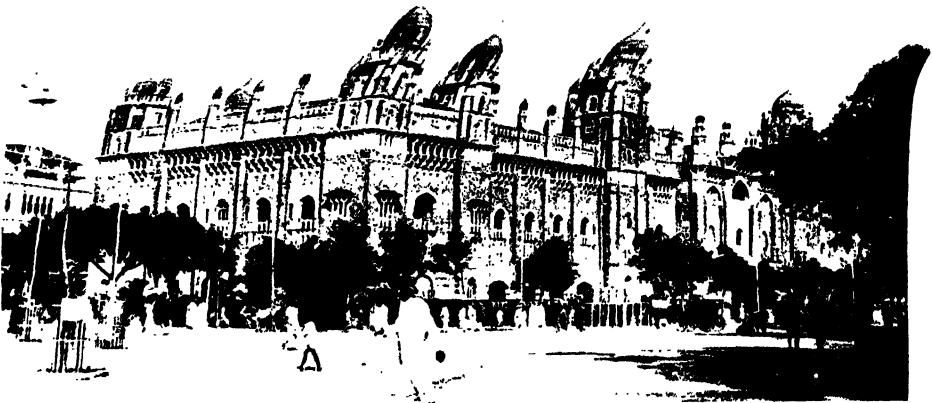
Though this photograph was taken in the heart of the city where traffic is at times very heavy—the district is the confluence of Hornby Road, Fort Street and Mint Road and the photographer's back is towards the buildings of the General Post Office—the scene in this broad thoroughfare would not suggest an acute traffic problem. Oxen, goats and dogs disport themselves in as calm a fashion as if they were in green meadows. The cows are sacred and must not be moved, while the pigeons also have a religious significance, and many natives feed them as a deed that will be counted unto them for good.



E. N. A.

ONE OF THE BUSY NATIVE STREETS OF BOMBAY. TRAVERSED BY A MODERN TRAM

Paidhownie Street runs from Parel Road to Donerji Street in the native city and contains many attractive examples of the Indian dwelling house. The balconies often have fine wood carvings and some houses betray unmistakable Portuguese influence. Paidhownie means "foot washing" and was the name of the stream of salt water that used to be left by the receding tide at the point where Parel Road is now colloquially known as the Bhendi Bazaar; here travellers entering Bombay would wash their feet before going on to the temple of Mookhadevi, the goddess from whom, according to the most likely theory, Bombay takes its name.



Kenneth Comyn

BOMBAY POST OFFICE, A FINE EXPRESSION OF CIVIC PRIDE

Most of the public and municipal buildings of Bombay stand in an impressive group on the west side of the island, between Esplanade Road and Mayo Road. Facing Church Gate Street, which connects these two roads, is the Post Office, a building whose interior arrangements have received no little praise; three storeyed and 242 feet in length, it is constructed in medieval Indian style.

the butchering of animals), merchants, manufacturers, lawyers, medical men, including some of high distinction, and many artists.

The Mahomedans of Bombay are divided into communities, reminiscent of the Hindu castes, which do not intermarry. The trade in meat, hides and leather is almost entirely in their hands, and among them there are wealthy manufacturers and merchants. The indigent majority are mill hands, servants and watchmen. Most of the harbour boatmen, too, are Mahomedans.

There are many mosques in the city but they are without architectural interest.

The Parsees are almost entirely of clerical occupation. They were the first Indian community to adopt European education wholesale, and they have always been the close adherents of the English in Bombay. To these two facts, more probably than to their undoubted commercial genius, they owe the importance, out of all proportion to its numbers, which their community has acquired. It must be said that they have done their duty by



Kenneth Comyn

WHERE JUSTICE IS ADMINISTERED IN BOMBAY CITY

South of the Post Office, but separated from it by the Public Works Secretariat, are the High Courts of Justice with their noble façade facing westwards; they were built in the eighteenth century in Early English style. The main entrance is by an arched porch between the two octagonal spires in the centre crowned by figures of Justice and Mercy; behind them rises the 175-foot tower

the city, endowing it with a number of charitable and useful institutions including a public hospital and a school of art. No other community has done so much for the general life of the city, the munificence of the rich Hindus and Mahomedans being generally reserved for the benefit of their own communities.

Cotton is the staple of industry and commerce of Bombay, and Cotton Green, where bales are piled, and the Stock Exchange are its nerve centres.

The water supply of Bombay was long ago the subject of concern to the

municipal corporation, and two large artificial reservoirs were made—Vehar and Tansa lakes—from which water was brought in pipes to the city. The Tansa reservoir, which is 55 miles from Bombay, lies in the district of Thana, at the foot of the Western Ghats; it has been enlarged, and the utmost capacity of supply under the existing scheme has now been almost reached. The scheme which seemed so grandiose and comprehensive when first mooted now appears inadequate. As it is, whole quarters of the city have to be severely rationed in respect of water for



FINE PREMISES OF BOMBAY'S CITY GOVERNMENT

E. N. A.

In the Municipal Buildings the architect has most successfully modified the Gothic style of the West to suit the Eastern city by introducing oriental feeling in turret and dome. The tower, 250 feet high, is fronted by a central gable crowned by a symbolical statue representing Bombay, "the first city of the Indies." The space in front is the junction of Cruickshank, Hornby and Waudby Roads



John Bushby

LIONS ON GUARD AT THE ENTRANCE TO A ROCK-CUT SHRINE

Among the remarkable sights of the Bombay district the cave temples of Elephanta Island are the most out-standing. Excavated many centuries ago—supposedly in the ninth of our era—they were the object of much artistic decoration typical of Hindu religious art. Many gods are sculptured on the walls, but the commonest figure is Siva, the supreme god. Above is the entrance to the Lion Cave



E. N. A.

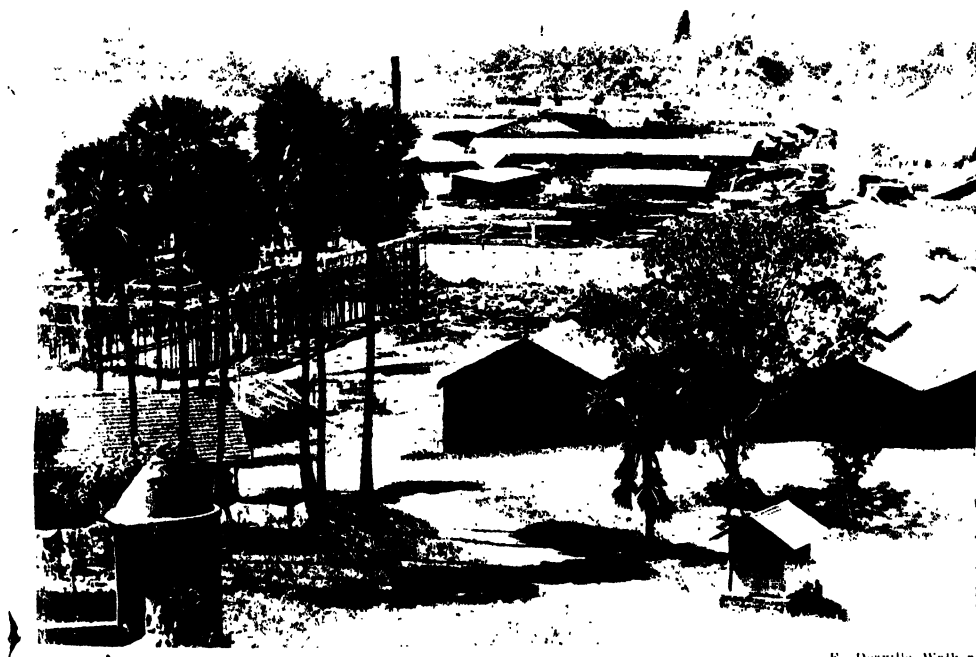
AWESOME TRIPLE DEITY OF THE ELEPHANTA CAVE TEMPLES

Chief of all the carved figures in the Elephanta caves is the Trimurti, or three-faced bust, 19 feet high, in the Great Cave. It represents Siva, the chief character of all the groups; in front he is in the person of Brahma, the Creator; on the left he becomes Rudra, the Destroyer; and on the right he appears as Vishnu, the Preserver, holding the lotus flower in his hand



ELEPHANTA ISLAND, A HAUNT OF BEAUTY IN THE HARBOUR

About six miles east of the Fort of Bombay, beyond Butcher Island, lies Elephanta, the famous isle of the caves. It consists of two long hills joined by a narrow valley covered with corinda bushes and tal palms. On the south hill there formerly stood a mass of rock carved as an elephant, but this fell in 1814, and now the shapeless remnant stands in Victoria Gardens north of the city



F. Deaville Walker

WESTERN INDUSTRIAL UGLINESS INVADES THE EAST

At once the Liverpool and Manchester of India, Bombay bristles with factory chimneys instead of minarets, and boasts cotton mills rather than temples. This photograph was taken from the topmost rampart of the ancient fort of Sewri, north-east of the city proper, and shows part of the extensive workshops of a great oil company. The lonely palms are relics of a more peaceful age

BOMBAY CITY

some months of the year, and the population is continually on the increase.

Two lines of railway connect Bombay with the rest of India. The Great Indian Peninsula Railway runs up the harbour side of the island over a bridge at Sion to Thana and Kalyan, where it divides, one line running north-east to Calcutta and the other running south-east to Madras by way of Poona. The Bombay, Baroda and Central Indian Railway runs over a bridge at Mahim, through Salsette, Bassein and Gujarat to Ahmedabad, whence a line goes on through Rajputana to Delhi, with a branch to Sind, and another serves the Indian States of Kathiawar.

Threefold Development Scheme

Bombay City has also a system of electric tramways leased by the corporation to a private company, the same which furnishes the city with electric light. This service, and the lighting also, requires development.

Indeed, development is now the city's greatest need, and the government has embarked upon a comprehensive scheme which, whatever may be said against it, does not err upon the side of modesty. It consists of three main projects—the reclaiming of a part of Back Bay from the sea, the provision of housing accommodation for the working class away from the congested quarters, and the creation of new suburbs.

Bombay's Winning Fight with the Sea

With regard to the reclamation of Back Bay it must be said that Bombay island, as it is, is not by any means as nature shaped it. Many acres have at different times been reclaimed from the sea; islets have been joined to the main island, and low-lying parts which once were liable to inundation have been embanked and rendered serviceable. The memory of such works survives in place names such as Colaba Causeway, Elphinstone Reclamation and Hornby Vellard. It was, therefore, not unnatural that the government, faced with the problem of a rapidly increasing population and restricted room, should have

first thought of a gain of further territory from the sea. It would, perhaps, be *captious to complain that they are going to destroy one of Bombay's claims to beauty, the curve of Back Bay.*

The work is already well begun; a breakwater is being pushed out from a point in the middle of the bay, and another to meet it from Colaba Point. The acreage thus gained will be mostly used for buildings let at a high rent, intended to provide the cost of the second part of the scheme, which also has already begun. The pretty hill at Wari, halfway up the west coast of the island, with all its bungalows and gardens, has been cut away and its soil used to fill the marshy land which used to be between it and the mill area. Houses of a pleasant, profitable kind will be built along the sea front, while the space inland is set aside for "chawls," or workers' tenements. The third part has hardly yet passed the surveying stage.

Beauty Threatened by Utility

The scheme is an attempt to solve all problems of the city's population at a stroke, and is therefore praiseworthy. But it is unpopular. For one thing, the Back Bay reclamation which was to defray the cost of the workmen's housing is costing a great deal of money which the people think might just as well be spent directly on the housing scheme. Then there are affairs of dire necessity, like larger hospital accommodation, which is not provided on the plea of lack of funds; and the racecourse at Mahalaxmi is not threatened, though it occupies much valuable building land.

It is much too early yet to speak of the success or failure of the scheme. In one sense it seems certain to succeed; it will be carried through, and so in a few years all that is rural now, and much that is picturesque, in Bombay island, will have disappeared along with much that is insanitary and unpractical. At present there are still large groves of palms, wild reedy corners edged with tamarisks and market gardens tended by real peasants of the isle.

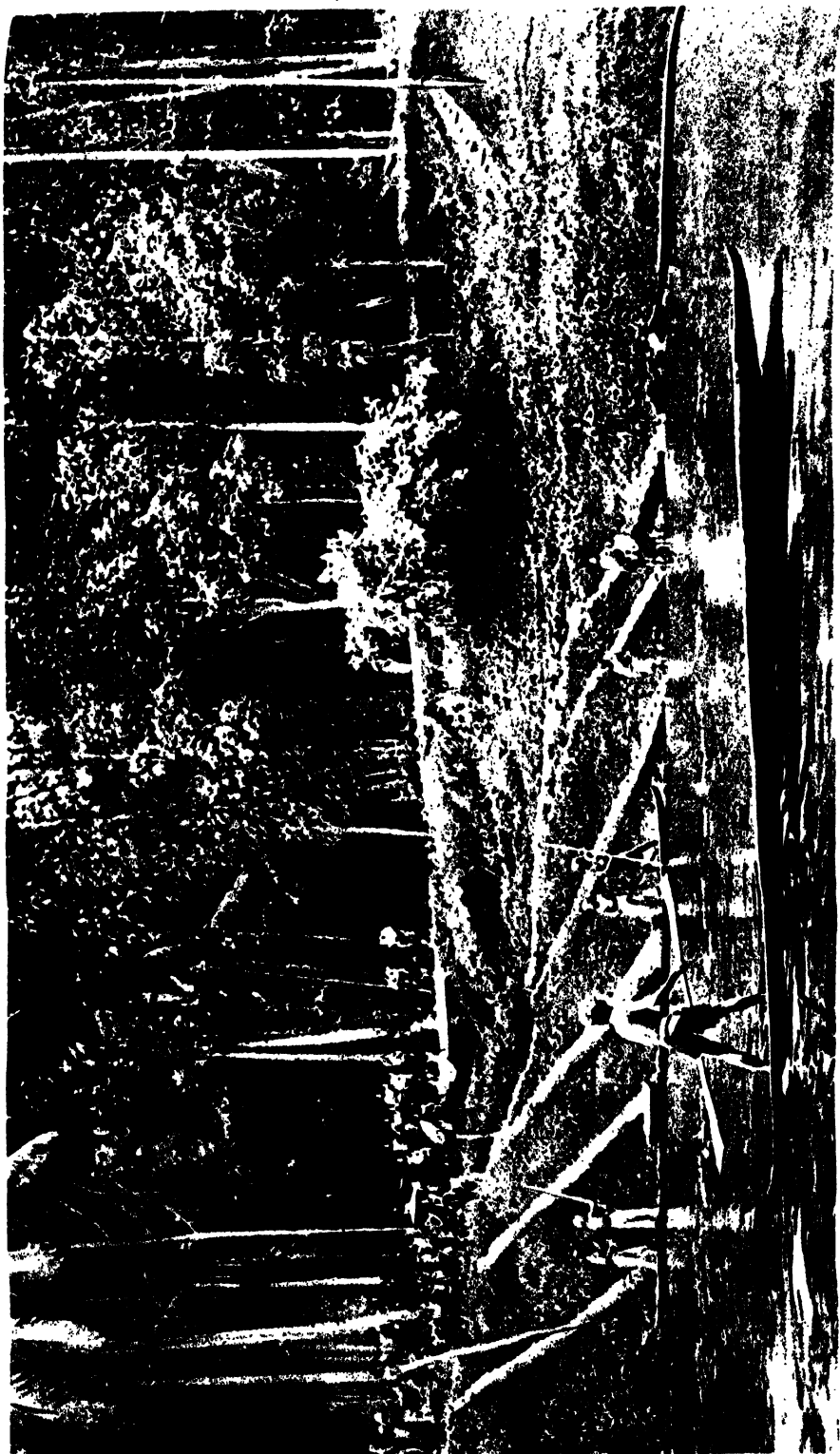


BORNEO. *Mount Mulu, in Sarawak, is a limestone mass pierced with caves, where many animals find refuge from the midday heat*

Photographs, with the exception of the two in page 849, Dr. Charles Hose



BORNEO. All the peoples of Borneo, except the wild Punans of the jungle, cultivate rice as their staple food. Near the coast and rivers wet-rice is grown on irrigated farms like this paddy field at Seduan



BORNEO. Rivers are virtually the only highways in Borneo, and the main villages are on their banks. Here the inhabitants are emerging through a screen of fruit trees set between their village and the Baram river



BORNEO. *Kuching, capital of Sarawak, stands on the Sarawak river about 23 miles from its mouth, the European part occupying the left bank*



BORNEO. *Formerly the capital of a great sultanate, Brunei stands on the Limbang river. The houses are erected on water-resisting piles*



E. N. A.

*rracks, courthouse, and the raja's palace are among the chief buildings.
The native quarters are clustered on both sides of a lower reach*



E. N. A.

*ORNEO. Backed by tall palms, and with the river for its high street,
ambas, in Dutch Borneo, is a charming example of a native floating town*



Kayans build their villages by rivers in the far interior of Borneo. This group lives on the Baloi Peh, in the Upper Rejang district



BORNEO. Here on the Akar river Kayans are watching an enemy boat in difficulties. Should it upset they would attack at once



On this rock barrier, called the "rotten rhinoceros," in the Baloi Peh, many a boat has been broken up when the river is in flood



BORNEO. Maritam trees, that fruit heavily once in three years, shade the well in the centre of Paloh, a coast village in Rejang district



Near the Meri plain, in Sarawak, where this native is busy with his quaint ox-drawn plough, a rich petroleum field is now being exploited



BORNEO. *Beside the long house the natives usually build a communal rice barn, often elaborately decorated like this Klemantan specimen*

BORNEO

Secluded Island Garden of the Sun

by Owen Rutter

Author of "British North Borneo," etc.

Illustrated with 35 photographs by Dr. Charles Hose and others

THE great island of Borneo straddles the Equator between China and Australia, and is just off the main trade route from Europe to the Far East. Its northern and western coasts lie on the fringe of the South China Sea; on the east it is washed by the seas of Sulu and Celebes and by the Straits of Macassar, while on the south it is separated from Java and Sumatra by the Java Sea. It has an area of 290,000 square miles—over three times that of Great Britain—and in shape resembles the head and shoulders of a gigantic boar that is looking, with pricked ears, to the east.

Two-thirds of the island belong to the Dutch; the remaining third, which is under British protection, is divided between Sarawak (the territory of Raja Brooke), North Borneo (administered by the British North Borneo Chartered Company) and the little state of Brunei, which is ruled by a native sultan with a British resident as adviser. The small island of Labuan, which lies off the north-west coast, is administered as a Crown colony under the government of the Straits Settlements. The British possessions are all north of the Equator, the boundaries between the states and between the Dutch Territory, which embraces the south of the island, being the watersheds of the great river systems.

Harbour that Would Hold a Whole Navy

Borneo is a land of hills. A great backbone ridge rising to 8,000 feet runs north-east and south-west across the island and culminates to the north in the mighty granite mass of Kinabalu, which rises sheer and isolated, its broken peaks towering above the lesser hills to a height of 13,593 feet, the highest moun-

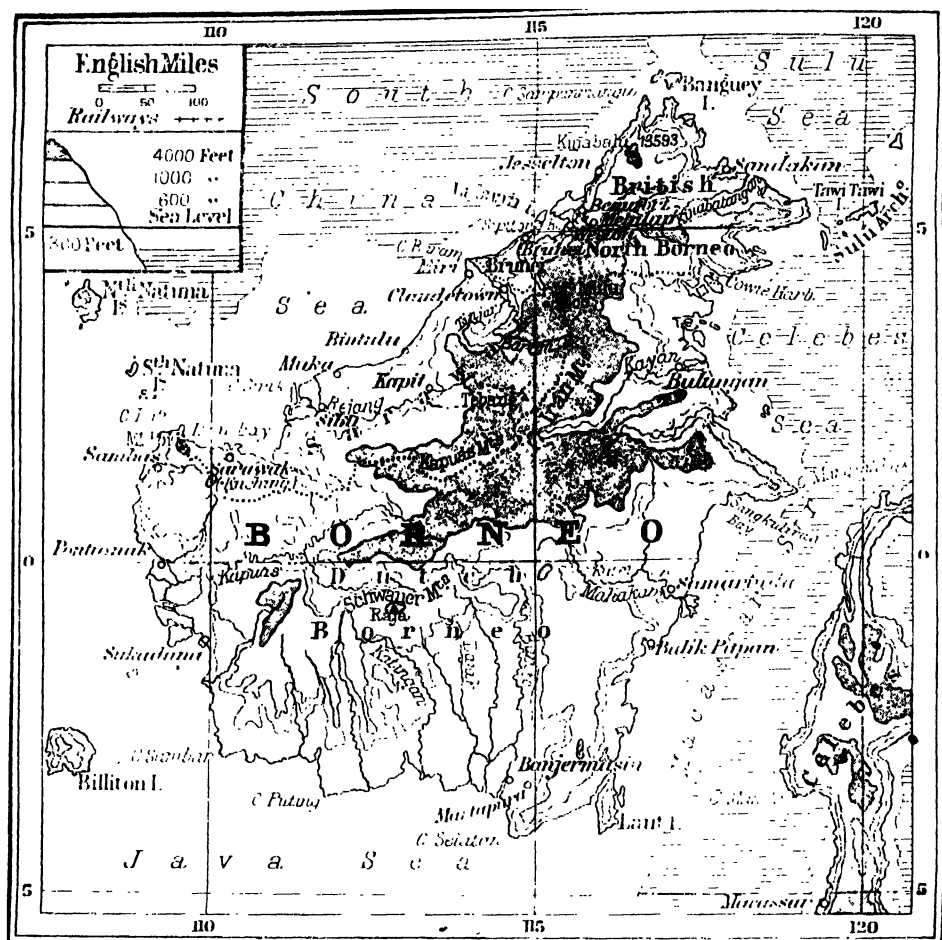
tain in the island and venerated by the natives as the resting place of departed spirits and as a dragon's home.

The mountainous region of the interior gives place to a zone of undulating downland, which in turn slopes to the plains that fringe the coast. These plains, which in southern Borneo especially are of great extent, are usually separated from the sea by vast expanses of mangrove swamp; the result is that there are few good natural harbours, except in the north where those of Labuan, Brunei, Cowie and Sandakan are the most important. In the latter, which is bottle-shaped and 17 miles long, the whole British Navy could lie without being overcrowded.

How Borneo's Rivers Reach the Sea

Good anchorage is afforded, however, inside the bars of some of the great rivers, such as the Rejang, which is the largest in Sarawak and navigable by small steamers for 160 miles. In North Borneo the chief river is the Kinabatangan which can be ascended only by launches and smaller craft. The three great rivers of the south are the Barito, the Kapuas and the Kutei, all of which rise in the central mountains and flow through Dutch territory.

Although the greatest of the Borneo rivers, the Barito differs from the others only in degree. Its upper tributaries come tumbling from the hills, draining a huge catchment area; it flows between densely wooded banks, deep reaches alternating with whirling rapids, then through fertile plains till it reaches the region of mangrove swamps, through which it debouches into the sea from many mouths, its great delta covering an area of several hundred square miles.



LOW-LYING COASTS AND MOUNTAIN HINTERLAND OF BORNEO

These mangrove swamps are the only unlovely sights in this land which has been so happily called a garden of the sun. The continuous deposits of the rivers, however, gradually change swamps to productive plains composed of clayey, sandy and pebbly beds, usually rich in humus. Hardly less fertile are the down zones, although, since there are but remote, if any, traces of volcanic action in Borneo, the soil generally is not so rich as that of other parts of the archipelago such as Java.

Besides being immune from volcanic disturbances the island is just outside the typhoon belt, and cyclones are unknown. In addition to this, the climate is, for a country which lies on the Equator, surprisingly healthy, with sea

breezes and cool nights. Speaking generally, the climate is better near the coast, where the temperature varies between 70° and 90° F., seldom rising to 100° , than in the low inland country where the sea breeze, unable to penetrate the dense forests, does not counteract the humidity due to the heavy rainfall.

On the other hand, in the hills of the interior, no more than 2,000 feet up, the thermometer may fall below 60° in the early mornings and the nights are cold. There are, however, few changes throughout the year, for Borneo is a land of eternal summer, and it is sameness of climate rather than unhealthiness that has an enervating effect on Europeans, since there are no hill stations or sanatoria. Most



COMMERCIAL OFFICES REPLACE JUNGLE BESIDE THE SARAWAK

In Kuching the presence of Europeans has transformed this stretch of the river bank. By the waterside are the offices of the Borneo Company, which for many years has worked gold, antimony, and cinnabar, or red sulphide of mercury, used both as a source of quicksilver and as a pigment. Up above is a bungalow and between the two buildings the hillside has been made into a lawn.



FORT AT KUCHING GARRISONED BY THE SARAWAK RANGERS

To keep order in the capital and in the out-stations, a native force has been established in this fort. The garrison numbers about four hundred, and for the most part is composed of Dayaks and Malays, while the commanding officer and the musketry instructor are Europeans. The roof with white pillars at the bottom of the steps covers a landing stage.



FISH MARKET AT KUCHING SUPERVISED BY THE GOVERNMENT

When the flood tide comes in the fishermen land their catch in great straw baskets, some of which can be seen on the back of one of these men. They then return on the ebb to catch the next day's supply, while their friends sell the fish in this market. The price per "kati" (1½ lb.) is fixed by the government who also see that no unsound fish are offered for sale.

of the rain falls between October and March during the north-east monsoon. It rarely rains for twenty-four hours continuously, but usually in short spells which frequently occur in the late afternoon. This rainfall is often very heavy and several inches may be recorded in a few hours, but it is always succeeded by brilliant sunshine.

The result of this copious supply of sun and rain is an abundantly luxuriant vegetation. In its natural state the whole island was covered with dense jungle. The amount which has been cleared is still insignificant compared with what remains, and the forests contain some of the finest timber in the world, the Borneo iron-wood, which is so heavy that it will sink in water, being particularly valuable. Borneo is also famous for its orchids, usually found growing high up in the trees; for its fruit, of which the durian, evil to smell but delicate to taste, is the most highly prized; and for its pitcher plants, some of which hold as much as a quart of water, the finest specimens being found on the slopes of Mount Kinabalu.

The whole island abounds with wild pig and sambar deer, which do great damage to plantations and are regarded as vermin. No less common is the little mouse deer (*tragulus*) the hero of a hundred native tales. Wild cattle (*Bos sondaicus*) are to be found on the plains and, chiefly in the forests of the north, the small Sumatran rhinoceros; the little honey-bear, its dark throat splashed with yellow, is well distributed, but the tiger-cat (*Felis nebulosa*), the chief representative of the cat tribe, is not so common. There are two species of lemurs and two anthropoid apes—the orang utan (*Simia satyrus*) which is common in certain districts yet only found elsewhere in Sumatra, and the gibbon whose gurgling call is a typical and unforgettable jungle sound.

Monkeys swarm all over the island, the strangest being the long-nosed species (*Nasalis larvatus*) which is peculiar to Borneo and most difficult to keep in captivity. The tapir, the scaly ant-eater and the monitor lizard are met with, also pythons, cobras and other snakes, while the crocodiles, which infest

every river, are of the most savage variety known (*Crocodilus porosus*) and cause considerable loss of life among the natives. Among birds the most interesting are the hornbill, the mina, which learns to talk easily, and the megapode, which is allied to the Australian species.

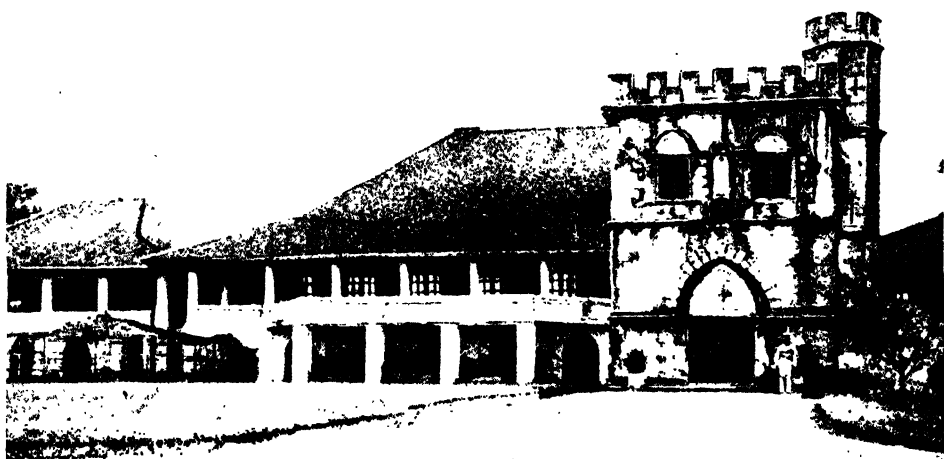
Elephants, of the smallest of the dark-skinned Asian species, occur on the east of North Borneo and occasionally penetrate to within a few miles of the capital. They are not found elsewhere in the island and, although possibly indigenous, they are usually considered to be descendants of a pair introduced a century or so ago by a native sultan. No attempt has been made to tame them.

If the climate of Borneo produces a prolific flora and fauna, it also gives man a harvest with the smallest amount of trouble on his part. As the natives discovered long ago, the virgin soil of the hills and uplands is so fertile that no artificial aids are necessary to bring a crop to bearing it is enough for the laborer on a tract of land to be felled

and burnt off, and the seed planted by prodding the earth with a stick. For the season following, another tract of virgin jungle is selected.

With modifications, this primitive and wasteful method of agriculture is still going on, except where natives are living under the immediate influence of the government. Nearer to the coast, where wet rice is planted, a crude form of ploughing and irrigation is practised and the same land is cultivated every year, but still the farmer does not trouble to put back what he takes from the soil. Nor, when he owns cattle and water buffaloes and even ponies, can he be said to raise stock, since he takes no care in the selection of suitable sires and, except when he needs them, allows them to run wild and feed themselves.

As the fauna of Borneo shows, there are grounds for believing that at some comparatively recent geological date Borneo, with Java and Sumatra, was connected with the mainland of Asia. The mountainous regions are composed of crystalline schists and older eruptive



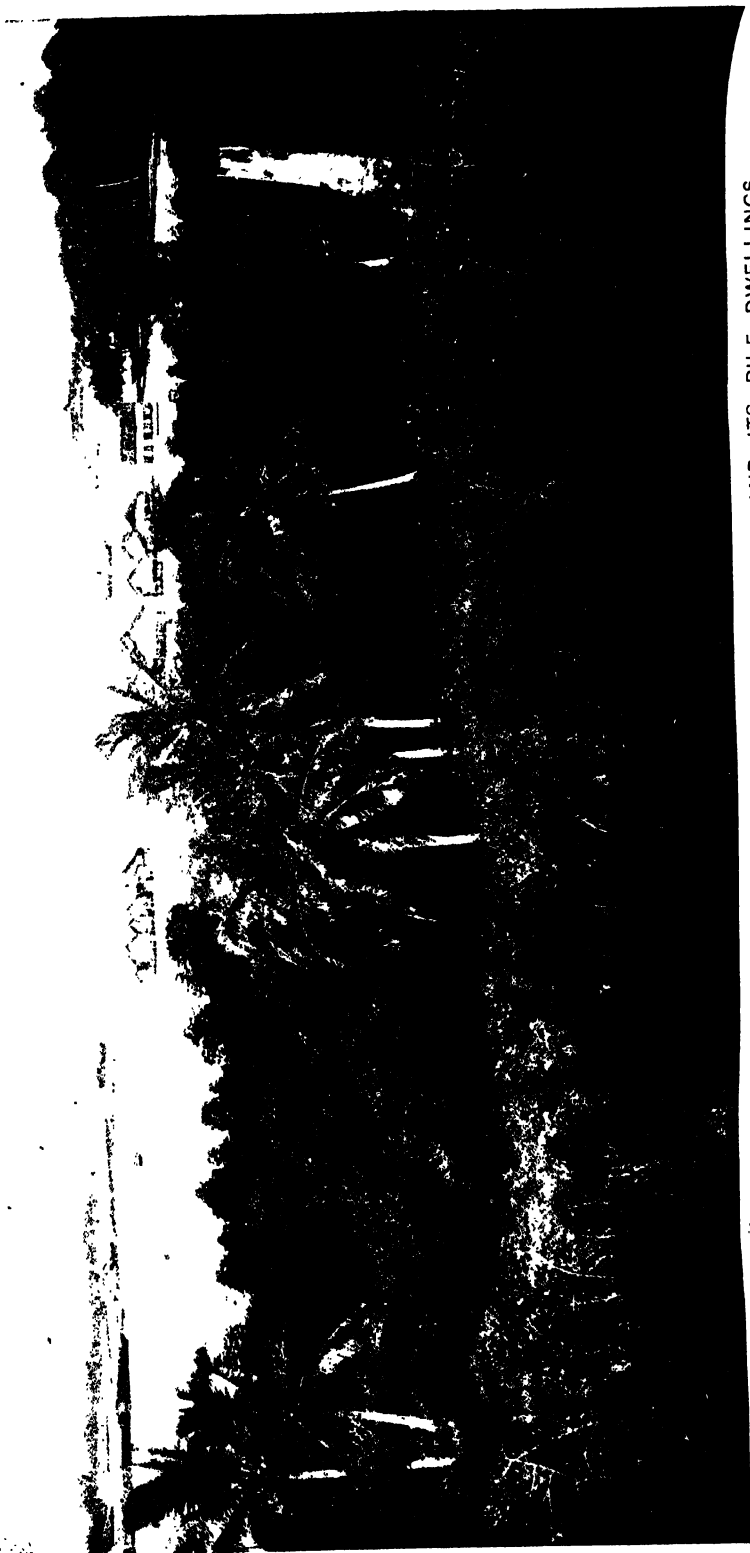
KUCHING PALACE OF THE ENGLISH RAJAS OF SARAWAK

In 1838 an Englishman, Sir James Brooke, and twenty men set sail from the Thames in their armed yacht the *Royalist*, with the romantic intent to rid the Malay Archipelago of the pirates that made trade and prosperity impossible. With a landing party he quelled a rising in Sarawak against the sultan, and was confirmed in the title of raja in 1841. This English dynasty still exists



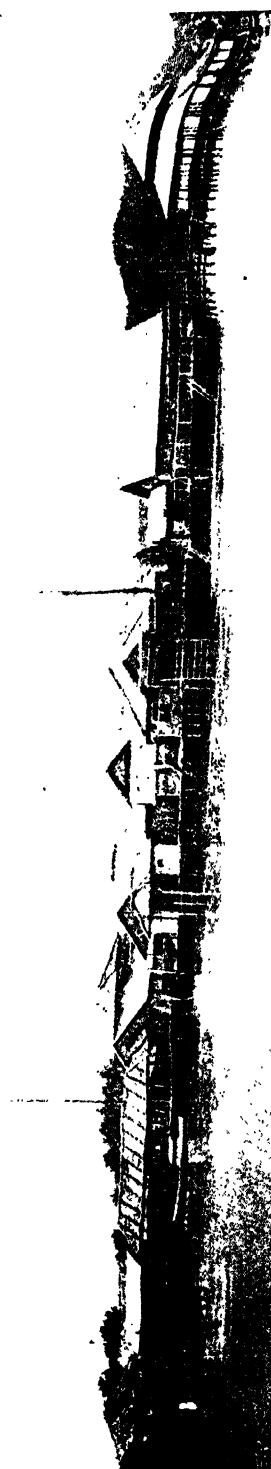
REGATTA DAY IN KUCHING WITH HALF THE POPULATION OUT ON THE WATER

On New Year's Day a regatta is held at Kuching, the chief town in Sarawak. All the town turns out to see the show and such vessels as happen to be in port fly every available flag. The most popular events are those in which the big native canoes take part. One of these, containing about seventy paddlers seated two abreast, is in the centre of the photograph. There are also races and prizes for small craft. Kuching is 23 miles up the Sarawak river and has a lively trade, mostly in the hands of the Chinese, who by their efforts have made themselves indispensable in almost every branch of commerce.



ONE OF BORNEO'S FEW GOOD HARBOURS : THE PORT OF LABUAN AND ITS PILE DWELLINGS

Off the mouth of Brunei Bay, which is near the top of Borneo's long north-west coast, is the little island of Labuan. Its importance is very largely due to this fine sheet of water known as Victoria Harbour, the mainland being deficient in bays or creeks with good anchorage owing to the prevalence of huge mangrove swamps along the coast. Labuan is a busy market for the goods exported from the mainland and has, out of a total area of about 28 square miles, some 2,000 acres under cultivation, the soil being extremely fertile. The island has also been found to be rich in coal, though exploitation has not met with success.



ALL THAT REMAINS OF THE SPLENDOUR OF A ROYAL CITY: THE PILE DWELLINGS OF BRUNEI
Capital of the state of that name which lies between Dutch Sarawak and British North Borneo, Brunei has been the seat of some thirty sultans, which title they took after receiving the Mahomedan faith. The site of the city has been moved several times, and this one is on an expansion of the Brunei river



ON A CHANNEL IN THE REJANG DELTA: FISHING VILLAGE THAT HAS BECOME A PORT OF CALL
Round about Cape Sirik in Sarawak is the Rejang delta. Most of its channels are navigable by small coastwise schooners like the vessel seen above, the being mainly of sago, re-in and gutta-percha. The locality has been immortalised by Joseph Conrad, for one of whose books this photograph might well be an illustration



SLIM STEMS OF THE TAPAN TREES, KINGS OF THE BORNEO FOREST

Borneo's forests contain about sixty kinds of timber capable of commercial exploitation. Of all trees, however, none exceeds the tapan for stature and appearance, with its more than fifty feet of smooth trunk and its crowning mass of foliage. The photograph shows a forest path near the Baram river which, rising in the Iran mountains on the borders of Sarawak, finds the South China Sea near Cape Baram



HILLSIDES STRIPPED OF TIMBER TO MAKE ROOM FOR PADDY FIELDS

Rice cultivation is spread by forceful means in Borneo. The trees and undergrowth along the river banks are cut down and left to dry. They are then set on fire, and as soon as the ashes, which form a very valuable manure, are cool the rice is planted. The pile dwellings to the left constitute a native "farm," conveniently close to the river in which the natives are fond of bathing despite the crocodiles.

rocks of the nature of granite and diorite, in which quartz veins containing gold occur; the down zone is of tertiary formation with outcrops of limestones and sandstones and often contains coal-seams; this is followed by the diluvial plains in which platinum, diamonds and gold are found, frequently in abundance.

Gold has been discovered throughout the island, but only in paying quantities in the west and south, where diamonds also occur. the richest diamond field beir at Martapura in Dutch Borneo. Coe is also widely distributed and is

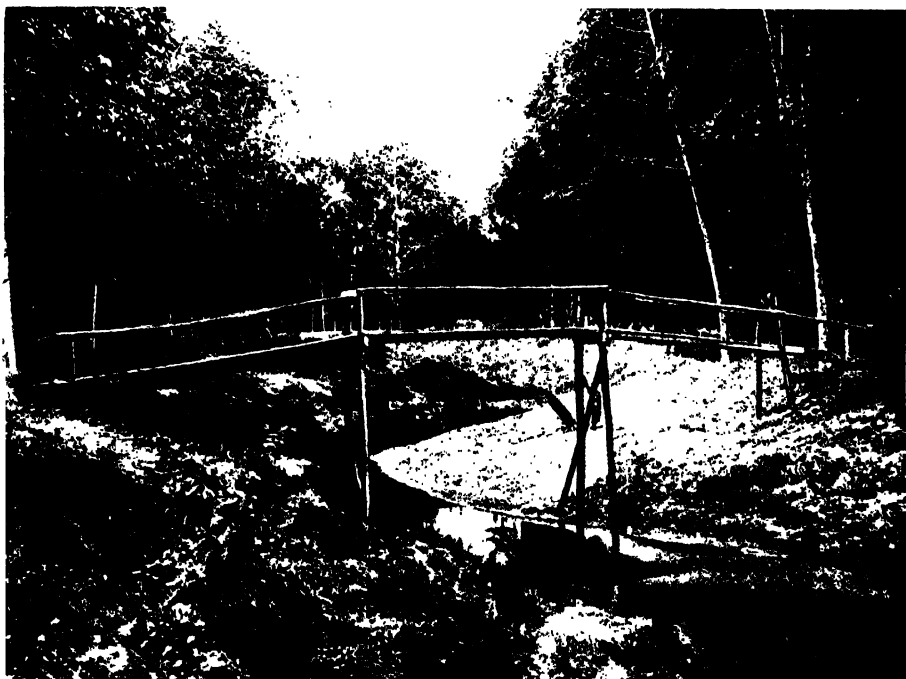
mined in all four states. Petroleum is worked in the east of Dutch Borneo, Balikpapan being the centre of the industry, and a rich oil field of great extent has been discovered at Miri in the north of Sarawak. From a mineralogical standpoint, however, the island is not yet fully explored.

The Borneo seas have riches of their own, no less than the land. In them abound all kinds of fish - from sharks, whose fins are prized by the Chinese for making soup, to enormous prawns—and other produce such as sea slugs, edible seaweed and pearl-shell. Yet the



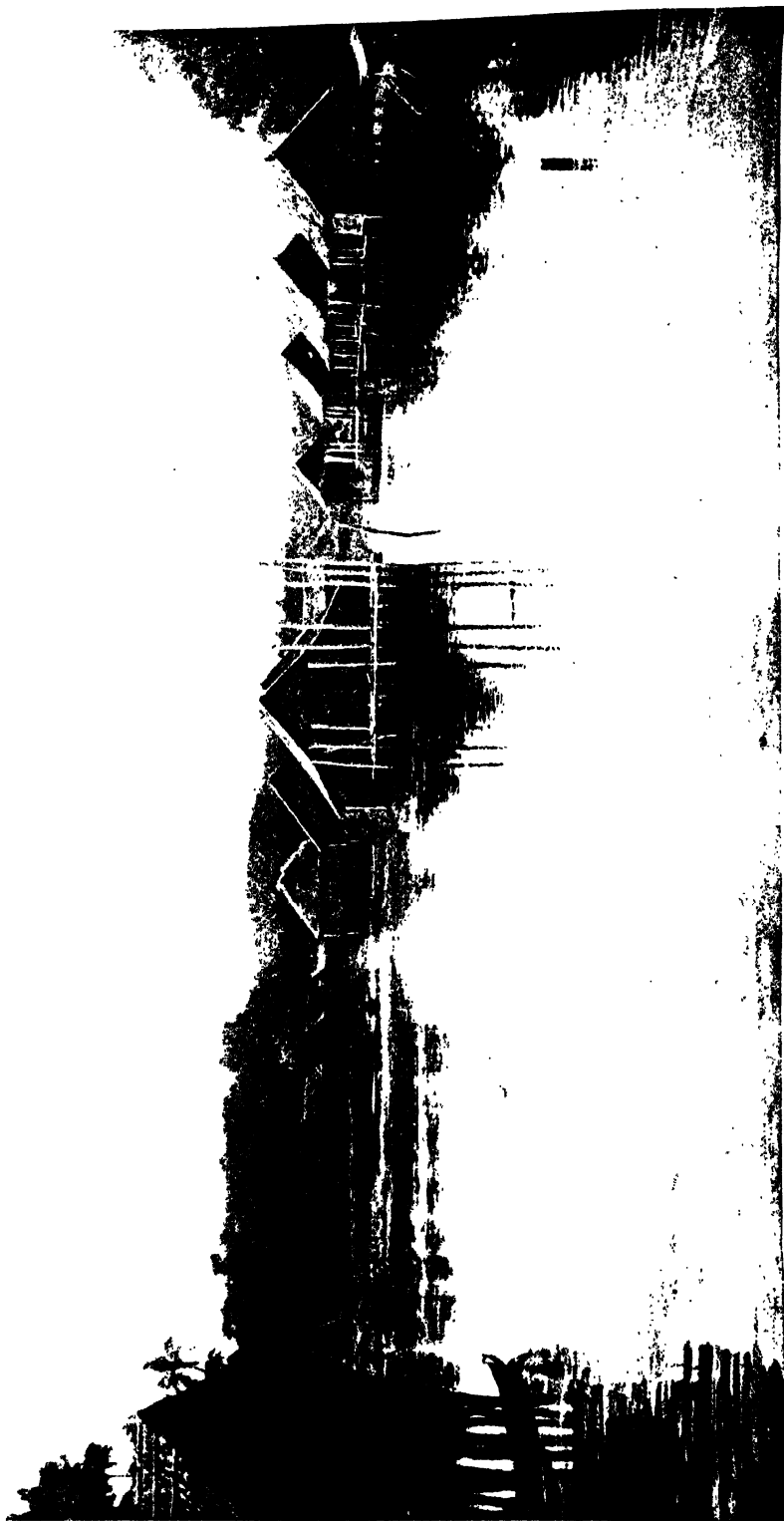
MOUNT DULIT BY THE RIVER TINJAR WITH ITS SUMMIT IN THE CLOUDS

Mount Dulit is a summit in a spur of the Iran mountains. It is formed of sandstone and is some 5,000 feet high, while its sides, being very thickly covered by woods, are extremely difficult to climb. The river is the Tinjar, a tributary of the Baram, the confluence of the two streams, which rise near each other and then make a wide divergence, being not far from Cludetown in Sarawak.



IN THE PARA RUBBER ESTATE OF THE BORNEO COMPANY

This was one of the first rubber plantations in the East and also one of the most successful. The bridge serves to show how the incoming Europeans have developed the type of construction already in wide use among the Dayaks. These made their bridges with only a single bamboo as pathway, and the only materials at their disposal were bamboos and rattans. The supports of this bridge are of the former



D. J. Butler

KINABALU'S CLOUDY PEAK, THIRTEEN THOUSAND FEET HIGH, SEEN FROM A COAST VILLAGE

Rising in lonely grandeur Kinabalu, the highest mountain in the island of Borneo, seems to overshadow this little village, despite the 20 miles in between. The range of which it is the main feature runs parallel to the west coast of North Borneo at an average distance of about 15 miles from the sea. The mountain itself is composed of porphyritic granite and other light-colored rocks, and dragons are said to dwell on its side there. Most of the rivers of this district are shallow and obstructed by

logs, and this village of Mulu, containing about 100 houses, is one of the best of the district. It is a head-hunting country.



SETTLEMENT BY ONE OF THE FINE RIVERS THAT ARE BORNEO'S MAIN MEANS OF COMMUNICATION

Little attempt is made by the natives to cultivate the densely wooded here, and most of the rice growing is done on the banks of rivers. Travelling up one of these in a boat often gives the voyager little idea of the country, as the muddy banks crowned with tall grasses and the dark line of tree tops beyond hide everything. Every now and then a patch of cultivation appears with a few big trees. Often an entire village will accommodate itself in one building, which is always built on piles and usually constructed entirely of bamboo, than which there is no timber more useful for the natives in these parts.

BORNEO

fishing industry is mainly in the hands of the natives and a few Chinese; the local demand for dried fish is not met and there are great possibilities of developing the export trade, for the native is an expert fisherman, using net, spear or trap and, up-country, poisoning the rivers by means of a jungle root known as tuba.

The collecting of forest produce is also in the hands of the natives, who gather the rattans, jelutong, gutta-percha, beeswax, camphor and resinous gums of the jungle, and also the edible birds' nests which are found adhering to the sides of the great limestone caves. The vast timber resources are now being exploited with European capital on a larger scale than formerly both in Dutch and North Borneo, where up-to-date saw mills have been erected together with modern logging equipment for the timber camps.

The agricultural wealth of the island is very great, for the soil will grow almost

any tropical product. In the north tobacco was formerly the chief object of commercial enterprise, but it has given way to rubber (*Hevea brasiliensis*). Both tobacco and rubber estates are worked mainly by imported Javanese and Chinese labour, but natives are used for the cultivation of coconuts, which grow in the coastal regions of Borneo as well as anywhere in the world, and of sago, which is cultivated in the river valleys near the sea; indeed, Borneo is the great sago producing country of the world. The greater proportion of the sago exported comes from Sarawak, which also produces large quantities of pepper, although this supply is decreasing annually owing to a disease which cannot be stamped out.

When not employed on estates, the natives of Borneo are mainly concerned with the cultivation of rice, which, with maize, yams and tapioca, is their staple food. Both "hill" and "wet" rice are planted, but the annual crop is at



D. J. Rutter

PARADE BEFORE THE JUDGES AT A LOCAL CATTLE SHOW

Much of the coast land of Borneo is flat and admits of rice growing. A rough kind of tillage and irrigation exists, and the native farmer uses these water buffaloes to drag the plough. Indeed the animal is his most cherished possession and is also used as both hack and hunter. The European authorities encourage careful breeding and for this purpose hold periodical shows



TINY TARSIER

This lemuroid primate, nocturnal, arboreal and insectivorous in habit, was discovered by Dr. Charles Hose

equal to the local demand and large quantities have to be imported.

With minerals the natives do not greatly concern themselves. The

Chinese, however, have worked gold for centuries, especially in Sarawak, and in European mining enterprises such as the oil workings and the coal-mines Chinese labour is mainly employed, while in the important diamond cutting industry at Martapura some 3,000 Chinese and Malays are engaged.

Beyond those connected with agriculture, there are few manufactures in Borneo. Some of the coast natives are expert boat builders and make a certain amount of crude salt by evaporating sea water, while Brunei has long been famous for its brass and silver ware. Most of the tribes weave cloth with varying degrees of skill, forge weapons and make mats, hats and household utensils. With the coming of cheap cloth and other imported goods, however, these industries are dying out, and the only European factories, besides those connected with agriculture and forest produce, are those for the manufacture of cutch, which is prepared from the bark of mangrove trees, which abound near the coast.



DREAD GIANT THAT WALKS THE FOREST WAYS

Orang utans are peculiar to Sumatra and Borneo, the name in Malay meaning "man of the woods." A full-grown male stands about 54 inches high and its arms are enormous. It keeps mostly to the trees and is very fond of fruit



Stewart Murray

AMID THE TANGLED JUNGLE OF THE ISLAND OF WONDERFUL FORESTS

These vast areas whose fecundity is enhanced by the moist, warm climate of the tropics produce more plant life than there is either nourishment or room for. There is a continual battle for existence and the great trees have parasites as deadly as any that prey upon animals. The tall trunks push ever upwards struggling for light and air, the thickest part of the forest being often 50 feet from the ground



D. J. Rutter

HOUSE BUILT FOR SAFETY ON A HILLTOP

Houses are nearly always built on piles and some skill is displayed in this example, where a level floor has been obtained by piles of many different lengths. The sides are usually of bamboos and planking and the roof is thatched with palm leaves, the palm growing freely in Borneo. Head-hunting used to be a popular practice and houses were built where there was a good view of approaching raiders.



EXTRACTING CRUDE SAGO FROM A FELLED PALM TRUNK

Borneo grows a number of palm trees, including the betel-nut palm, which provides the native equivalent to chewing-gum, the coconut, the rattan and the sago palms. This last has a thick trunk which is crowned by a canopy of long feather shaped leaves. The soft inside of the tree is removed before seeding-time and the starchy portions are extracted by a process of washing and pounding.



Stewart Murray

JACKING A SQUARED LOG TO THE RIVER, THE HIGHWAY BETWEEN FOREST AND SAW MILLS

Considerable difficulty has been encountered in getting the lumber industry of Borneo up to working order. The dense growth near the rivers makes a formidable obstacle in the way of transferring the logs to the water. There are vast tracts of marketable timber and considerable sources of native labour. In the picture a felled log has been roughly squared and is being moved by trucks whose handles can be seen in the lists of the workmen, and so levered down to the bank where it will be loaded for the saw-mill.

The total white population of Borneo, composed chiefly of civil servants, planters and employees of the commercial firms, together with a few doctors and missionaries, is under 5,000, and the chief reason for the slowness of the island's development is the lack of good communications. In a land covered with dense forest the natural highways are the rivers, which may be traversed by steamer, launch, native boat or raft, according to their depth. Beyond those in the south of Dutch Borneo few roads exist and the only railways are 125 miles of track in North Borneo and 20 in Sarawak. Bridle-paths, however in one measure take the place of roads in the interior, and the inter-port services of local steamers do so on the coast. Towns and government stations are linked up by telegraph and telephone, while Dutch Borneo, North Borneo and Sarawak all have wireless communication with the outside world



DAYAKS FELLING A CAMPHOR TREE

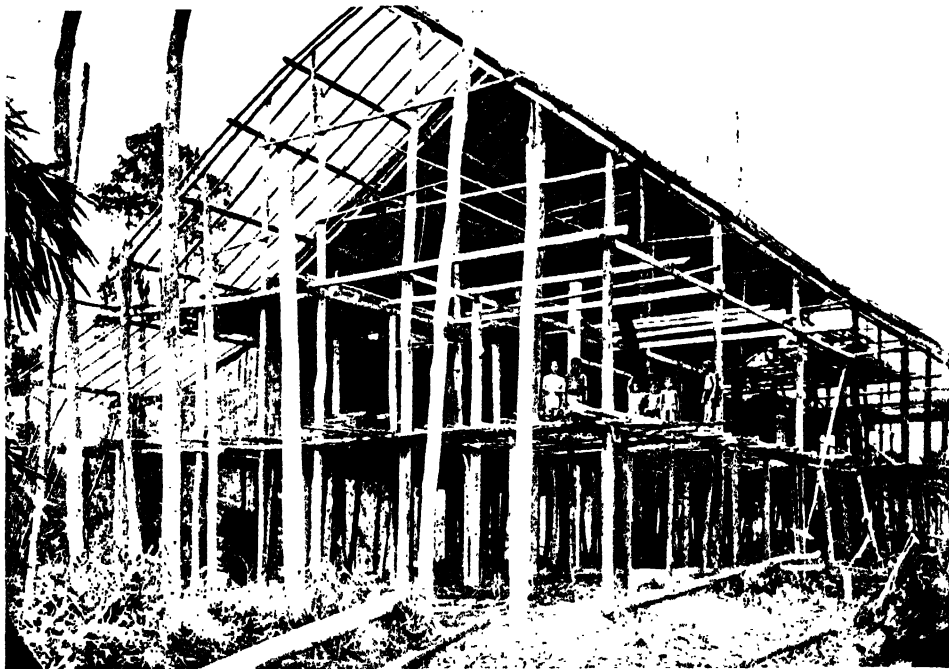
To obtain the camphor contained in the oil found in all of the tree, the trunk is felled and broken up and the heated in water. The cutting is done on a platform to avoid the buttresses of hard, close grained wood at the tree's

All three countries are served by local steamship companies, the Dutch ports being connected with Surabaya and Singapore; Labuan and Sarawak with Singapore; North Borneo with Singapore, Hongkong, the Philippines and the Australian ports. These services form an adequate outlet for the export trade, but all internal transport away from road and railway must be done by boat or by means of native carriers, for there is no air service in Borneo.

Most of the transport is required for goods destined for export, since there is little internal trade beyond that con-

ducted by the natives and Chinese. The chief imports of all the states are, generally speaking, similar—rice, cloth, ironware, tinned provisions, sugar, tobacco, kerosene oil and matches; but the exports show interesting comparisons of the manner in which the resources of each country are being developed. From Dutch Borneo the six principal exports in order of importance are timber, oil, coal, diamonds, gutta-percha and copra; from Sarawak oil, sago, plantation rubber, jelutong, pepper and cutch, and from North Borneo plantation rubber, timber,

BORNEO



DAYAK LONG HOUSE IN COURSE OF CONSTRUCTION

This is the skeleton of a two storey "long house," such as the Dayaks build to accommodate a number of families and sometimes an entire village. The posts and joists are usually of hardwood, a term applied to the heavier, close-grained timbers, and are either lashed together or fastened on the mortise and tenon principle. The poles are only roughly dressed and last for years.



TAPPING A FELLED TREE FOR GUTTA-PERCHA

Incisions made in the bark soon exude the precious substance which is scraped off with a knife. A less wasteful way is to incise the standing tree, as is done on rubber plantations. Gutta-percha has special properties in connexion with electrical apparatus and is largely used for insulating purposes in submarine cables; indeed it is one of the chief Bornean exports.



PADDY BARNs BY A KENYAH VILLAGE IN CENTRAL BORNEO

When the rice is picked it is stored in barns, a number of which are dotted about this landscape beside the main buildings. Sufficient rice for the day is taken for each family and pounded in a mortar with a pestle by the women after being dried in the sun. The hillside is being cleared to make room for more cultivation in the manner also seen in page 862.



VILLAGE THAT HAS THIRTY FAMILIES AND ONLY ONE HOUSE

This is a fine specimen of a Dayak "long house." A series of partitions down one side of the gallery forms the private family apartments, while the gallery itself serves as a common room. As the whole edifice is on piles entrance is made by a simple form of ladder consisting of a notched pole. This village is called Song and stands beside the Rejang river.



MOUNT SINGGI WITH ITS FLAT TOP AND A VILLAGE IN UPPER SARAWAK

This mountain is a landmark for miles and has become almost a household god among the "land Dayaks," as the Dayaks of the interior are called. They refuse to live for any length of time at a place which is not within sight of this remarkably shaped summit which they liken to an inverted paddy mortar. Like most of the hills in the locality it is heavily wooded, so that its strange contours are always softened by a green veil of foliage.



LONELY GRAVE OF A BORNEO CHIEF AMID THE JUNGLE

Most of the Borneo tribes are very careful with their dead, sometimes embalming them and often observing long periods of mourning which may last for twelve months. A mound is made over the grave, which in this instance has been overgrown by the luxuriant jungle, and a kind of shed is erected to keep off the rain. To propitiate the devils bags of food are slung to the structure



DESCENDING A SHAFT AT THE JAMBUSAN GOLD-MINE

Borneo's mineral wealth is capable of considerable development. Gold has been mined by the Borneo Company on the Sarawak river, in some quartz reefs near Bau and also at Jambusan in Upper Sarawak. This mine is worked mainly by the Chinese, the cyanide process of mining being used. This involves washing the ore in alkali and then dissolving out the gold in cyanide

tobacco leaf, coal, copra and cutch. Throughout the island the rural conditions and character of the villages have much in common. In the interior the natives build usually on the tops of the hills for security from raiding-parties: their villages consist of one or more houses, sometimes 200 feet long, raised on posts above the ground, with

walls and floors of split bamboo, tree-bark or roughly hewn planks and roofs of palm-thatch, and divided into family cubicles with a long passage or veranda running the length of the house.

Nearer the coast the communal house gives way to the family house, constructed from similar materials, while most of the river and coast tribes build



SACKS OF PEPPERCORNS BEING TAKEN FROM STORE SHED TO BARGE

Introduced into Borneo from Travancore and Malabar, the perennial shrub whose little red fruits yield pepper is a small plant with broad oval leaves and a sinuous stem that climbs the trunks of trees. White pepper is produced from unripened fruit with the outer skin removed. Black pepper, however, is obtained by letting the fruit dry, when it becomes a peppercorn, and then grinding it to powder.



LIGHT RAILWAY FOR ONE OF BORNEO'S MOST IMPORTANT INDUSTRIES

Pepper is now produced in large quantities in Sarawak, forming one of Borneo's chief exports. The pepper vine is easy of cultivation and only needs its tendrils tied to neighbouring trees. It does well in narrow sheltered valleys where there is a damp soil manured with fallen leaves. The secret of pepper's pungency lies in a kind of gum and a minute quantity of oil contained within the fruit.



WINNOWING PEPPER BY MACHINERY IN UPPER SARAWAK

When the peppercorns have been ground to powder the whole mass is winnowed by machinery. The man in the corner is feeding the peppercorns into the machine and workers from the fields have just set down a number of full sacks ready for treatment. The pepper plant is usually very prolific, bearing in a fertile soil as many as twenty or more berries on a single stem.



PETROLEUM RESERVOIRS ON THE OIL-FIELDS AT MIRI

Miri on the Sarawak coast has grown from a health resort into a prosperous oil-field. Several thousand hands are employed in the enterprise, which is conducted by the Sarawak Oilfields Company. These reservoirs, which sink as they empty on the gasometer principle, have each a capacity of some 4,000 tons of crude petroleum. A great future is predicted for the Borneo oil-fields.



WAITING FOR THE FISH ON THE INCOMING TIDE

Large quantities of fish are taken in this way off the mouth of the Sentobang river. Two lines of converging posts driven into the sand frighten the fish into the V-shaped net which is called a salambo, in the picture the posts are under water. The large expanse of shallow water gives the fishermen a wide field of operation when the flood tide brings the fish in towards the shore.



DERRICK PUMPING PETROLEUM ON A DUTCH OIL-FIELD

In Borneo petroleum is usually found near the coast. In Dutch Borneo there are prolific fields near Sangkuliran Bay on the east coast besides those at Banjarmasin and Martapura. Some of the wells require no pumping and yield as much as 100 tons a day. This derrick raises the oil over 200 feet, though many wells have to go down from 600 to 1,200 feet to reach the oil-bearing strata.

BORNEO

over the water. The last are the most sanitary, for the land houses are indescribably dirty both within and without, with pig-sties and hen-roosts beneath the floor, and this filth is undoubtedly a contributory cause of the high rate of infant mortality and of the ease with which epidemics such as cholera and smallpox periodically scourge the land.

The great native city of Borneo is Brunei, the former capital, which is built almost entirely over the water and has a population of 14,000. The European-made towns are also all on or close to the coast. The chief towns of Dutch Borneo are Banjarmasin and Pontianak. The former, which is the capital and the headquarters of the Southern and Eastern Residencies, stands 40 miles from the mouth of the Barito river and has some 46,000 inhabitants. Pontianak, the headquarters of the Western Residency, is situated at the mouth of the Kapuas river, almost exactly on the Equator, and, like Brunei, has a great native settlement built over the water. The capital of Sarawak is Kuching, 20 miles up the Sarawak river which is navigable for steamers of 1,000 tons, while Sandakan is the chief town of North Borneo, Jesselton being the port for the west and the railway terminus.

Excluding the immigrant population, which consists chiefly of Chinese and natives of the neighbouring islands of the Malay Archipelago, the inhabitants fall into two main groups--the Mahomedan tribes which have settled along the coast and the pagans of the plains and the interior. Both are of medium stature, wiry and well proportioned, but the pagans, particularly the Kenyahs and the Kayans who are distributed over the highlands of Sarawak and central Borneo, are often fairer and of finer physique, while the nomadic Punans, the most primitive of the Borneo peoples, are of small stature and greenish yellow in colour.

The Mahomedans, descendants of the pirates of old, are alert and restless, with strangely bright eyes; they are altogether more cunning and sophisticated than the pagans, of whom they do not scruple to take advantage when opportunity occurs.

The pagans, having come less in contact with outside influences, possess many natural virtues which the coast people lack. They are more tractable and intelligent and, up to a point, industrious, although improvident. The custom of head hunting is dying out under the influence of settled government, while theft and similar crimes are almost unknown.

BORNEO: GEOGRAPHICAL SUMMARY

Natural Divisions. Part of the old southern tablelands of the ancient continent of Angaraland, now sea-severed from China and belonging to one of the island festoons of the West Pacific. Inland ancient granite highlands, flanked by sedimentary uplands carved by deep valleys, and the whole edged by a low alluvial coastal strip with mangrove swamps, river deltas and flood plains. In a backwater from disturbing elements, by contrast with Japan neither earth-storms, volcanoes nor air-storms trouble the island.

Climate. Equatorial and tropical, with heavy rains, and only very slight variations of seasonal or diurnal temperature--the everlasting monotony of the tropics only relieved by evening sea breezes on the coast. From October to March the Pacific north-east trades reach the island and the north-east monsoon.

Vegetation. Jungle and swamp on the lowlands, forests on higher ground.

Products. Rice, in insufficient quantities, coconut palms, plantation rubber and tobacco are cultivated, but the agricultural resources are hardly tapped except for the sago and pepper of Sarawak. Exploitation is rampant--the forests yield timber to capitalists; camphor, beeswax, gutta-percha and rattans to the natives; mangroves yield cutch; the rocks yield petroleum, gold, diamonds and coal.

Outlook. Traders, first Asiatic and later European, have exploited the coast strips and the coast people; communications inland are limited to the waterways and rough tracks and the inland district is unexplored and, except by native collectors, unexploited. The island should develop into something better than either a second Java or a second Belgian Congo.

BOSNIA & HERZEGOVINA

Mountainous Triangle of the Balkans

by H. Gregorius Brown

Author of "Through Bosnia with a Camera"

BOSNIA and Herzegovina—before 1914 provinces of Austria-Hungary and previously for four centuries in the hands of the Turk—now form part of the Kingdom of the Serbs, Croats and Slovenes. They occupy the north-west corner of the Balkan peninsula and have an area of 19,700 square miles.

These two provinces, which lie behind Dalmatia when seen from the Adriatic, have roughly the shape of an equilateral triangle with a point downwards, Bosnia occupying the broad northern two-thirds. They are bounded on the north and north-west by Croatia and Slavonia, on the west and south-west by Dalmatia, on the north-east by Serbia and on the south-east by Montenegro. In the north-west and north the rivers Una and Save form the dividing line, in the west and south the Dinaric Alps and in the north-east the river Drina. The population totals about 1,900,000, of which number only 270,000 live in bare and rocky Herzegovina.

Panorama of Mountains and Torrents

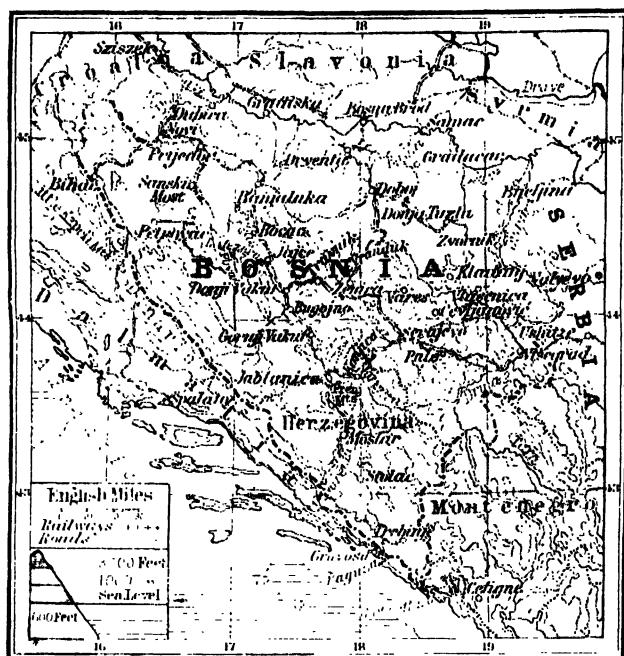
With the exception of the plain of the Save, which stretches for 200 miles along the northern border, Bosnia and Herzegovina are covered by mountain groups spreading out eastward from the Dinaric Alps over the whole area. Some of the peaks in the centre stand as high as 5,000 feet above sea level while in the west and south are many high plateaux, each enclosed by its ring of mountains. Here the only river of any size emptying itself into the Adriatic is the Narenta, which rises in and flows mainly

through Herzegovina. Bosnia belongs entirely to the watershed of the Save, a great tributary of the Danube, and its rivers, Una, Vrbas, Bosna and Drina with their feeders, are all of torrential type. The latter province presents itself as an endless variety of mountains, intersected by valleys in which flow rapid rivers or streams occasionally opening into small lakes, occasionally becoming fine waterfalls and frequently passing through wonderful defiles and deep gorges. The river Pliva, near Jajce, with a breadth of 60 feet, hurls itself into the Vrbas from a height of over 90 feet in most romantic fashion.

Realms of the Sirocco and the Bora

The deep alluvial soil of Bosnia is very fertile along the river valleys and especially so in the lower lands towards the north and north-east. That in Herzegovina and the adjoining karst region of Bosnia is, on the other hand, very thin and only to be found in the high hollows and small valleys.

The climate of Bosnia differs somewhat from that of Herzegovina, though both have as a prevailing wind the sirocco, bringing moisture and rain from the south-west. Bosnia has, on the whole, a damp and rather mild climate with ample rainfall, but is sometimes very cold in winter and subject to violent changes. Snow falls at times, but, except in the high levels, does not remain long. Herzegovina, with its southern aspect, has a climate more like that of Dalmatia, very hot and dry in summer and hard in winter. Here the bora, a bitter north-east wind, rages at certain seasons.



RELIEF MAP OF BOSNIA AND HERZEGOVINA

The greater part of the Bosnian mountains is clothed with forest, only the crests of the higher ones appearing to be bare. From the top of any high pass may be seen dense masses of wood in every direction, interspersed by open spaces and occasional green valleys. The beech tree is most abundant, closely followed by the oak and the fir, while afterwards come the elm, ash and pine, together with lesser known species. In the belt of larger timber starting somewhat below the crests may be seen giant trees reaching to a height of 200 feet and having corresponding girth. Plum trees are abundant among the vegetation growing on the lower ground and a fair proportion of apples and other fruits.

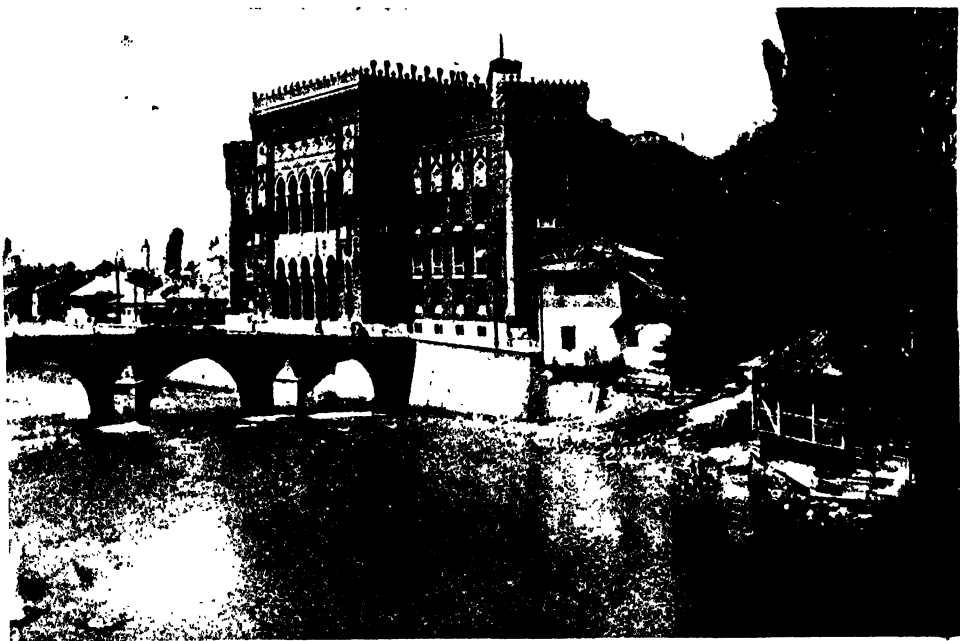
In Herzegovina olives, figs, mulberries, pomegranates and the vine ripen, as well as considerable quantities of tobacco. The Sarajevo Museum owns a collection of 3,000 different species of plants and flowers which are known to grow in the two provinces, and these will suggest how large a variety there actually is.

All the usual cereals appear in Bosnia, though not in anything like the proportions found on the plains of the Save and Danube farther north. Maize is most commonly seen, and this hardy grain can even be found in the high hollows of the bare karst region. The wheat harvested is not sufficient to supply the needs of the two provinces themselves, while sugar-beet as a cultivated crop is of comparatively modern introduction in the valley of the Bosna.

Great flocks of sheep, herds of cattle, of pigs or of goats roam the pastures, the forests and the mountain sides. It is a common sight to see

goats and even sheep springing about the most inaccessible places on high rocks or among the rough brushwood of the lower ground. Horses, too, are reared, though in smaller numbers, and even Herzegovina can show its sheep and goats. Poultry and bees are kept, and in a few places the silkworm is bred. Wolves, otters and squirrels may be met with, while large numbers of snipe, woodcock and duck haunt the banks of the Drina and Save. Many streams yield trout and crayfish and eels are taken from the Narenta.

The highlands of the two provinces are a continuation of the South Alpine limestone belt which, in the Bosnian karst region and Herzegovina, consists largely of porous chalky rock. Here the water trickles through to underground streams and leaves the surface frequently suffering from drought. In Bosnia generally, however, the more recent neogene rock formations allow of surface water in plenty. Coal is found along some of the river valleys of north Bosnia and iron in the mountains. There are eight or nine coal



ONE OF THE FINE PUBLIC SITES OF SERAJEVO: THE TOWN-HALL

Of the government buildings in Sarajevo the most attractive is the town hall erected on the banks of the river Miljacka. In Oriental style, of splendid proportions, with a broad terrace and a handsome portico with Moorish arches, it is by no means out of place among the numerous minarets which are scattered in its vicinity and is a prominent feature in almost every view of the city.



'AMONG THE GRAVES OF BYGONE GENERATIONS OF MOSLEMS

Alfred

On the hill slopes of Sarajevo lie many Mahomedan graveyards in which strange tombstones of varying size and form are scattered about the flower-strewn grass. The pointed stone betokens a woman's grave, the turbaned stone that of a man. The shape of the turban invariably indicates the rank, and the initiated can readily distinguish the resting-places of janissary, priest and merchant.

BOSNIA & HERZEGOVINA

mines producing a total of 1,000,000 tons per annum and at least two iron mines giving promising results. Manganese and other minerals and salt are worked, but the whole problem of Bosnia's wealth in this direction and its exploitation is bound up with questions of capital outlay, transport facilities and suitable labour.

Antiquated Methods of Agriculture

Among the primary occupations, farming and the breeding of animals easily take first place, for more than 88 per cent. of the population are engaged in these pursuits. Of this total well over half are employed in pasturage. While something is being done in the way of schools of agriculture and model farms, great masses of the people remain extremely conservative in their methods. Implements and methods of the most ancient type are still in use. Haystacks built up in trees, primitive turbines in little wooden shanties on waterfalls for the grinding of corn, and wagons or ploughs drawn by six or eight oxen are quite common sights.

Industries of a Stay-at-Home People

Although the forests occupy 6,500,000 acres, as against 5,000,000 used for meadow, pasture and plough land, comparatively few persons are engaged in forestry. Disinclination of the Bosnian to leave home and native soil for work elsewhere, combined with lack of capital and proper transport, has led to this. Certain foreign companies under concessions in the past have rather ruthlessly cut down many trees in the valleys, but for a long time little effort was made to re-plant or to organize the industry upon a scientific basis. Mining of the minerals already mentioned and fishing occupy a small number of the inhabitants.

The manufacture of goods for local consumption is done almost entirely by workpeople in their own houses and a few little open workshops. In the bazaar quarter of all small and large towns may be seen the handi-

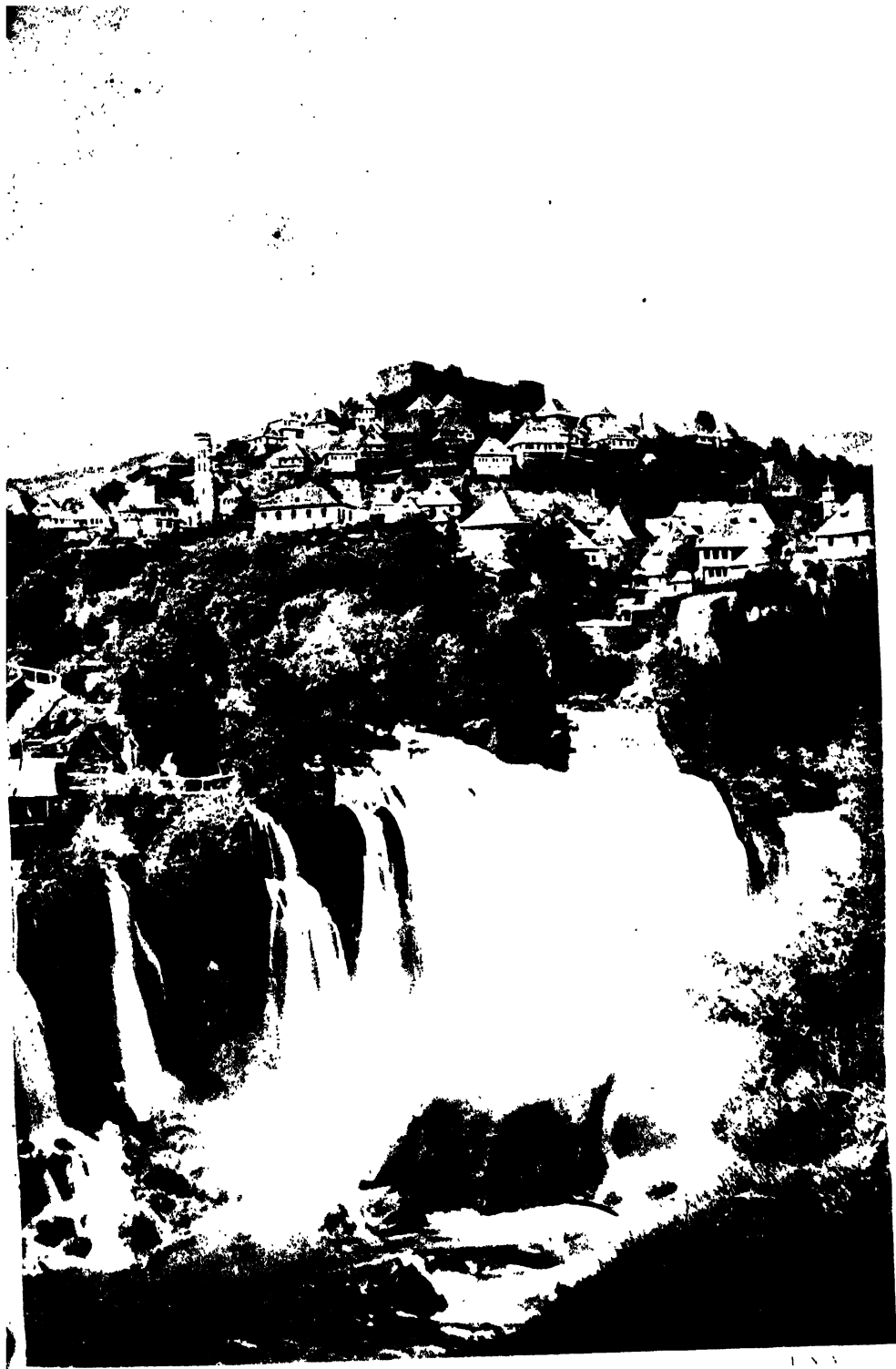
craftsmen of every trade busily at work - coppersmiths, tanners, cabinet makers, leather workers, shoe and slipper makers, weavers, embroiderers, tailors, producing almost everything needed for the Bosnian home and personal consumption.

The amount of manufacture for export is insignificant. Plums have long been sent out of Bosnia to be turned into prunes, but the state is supervising the gathering of them and standardising the methods of drying, grading and packing, so that Bosnia may compete successfully in the world's markets. A portion of the plum crop is set aside for the making of a kind of jam and the distilling of spirit. The iron and steel works of Vares and Zenica were able to turn out nearly 650,000 tons of pig iron and 300 tons of rolling mill products in 1915.

Few Transport Workers or Middlemen

Along the valley of the Bosna and in other suitable localities are many saw mills for the cutting of timber used in construction, and the manufacture of paper from wood pulp has been commenced. There is a large mineral oil refinery at Bosna Brod and Doboj has a sugar refinery. The skilled workers for the last named, as well as the machinery and plant, have been brought from Czechoslovakia. Beer is brewed in Serajevo and three or four state tobacco factories exist.

Of transport workers in the Western sense there are not many, for much is done by the people themselves with the ox-wagon, country cart and horse. There are, in addition, the staffs of the few railway lines and the barges on the river Save. Middlemen are comparatively few, as the purchaser goes direct to the handicraftsman who sells from his own workshop. Interpersed among the makers of articles may be found a few fruiterers, green-grocers, coffee dealers and keepers of second-hand stores, while the country innkeeper occasionally sells small goods. Serajevo has a market building upon



BOSNIA. Below the pyramidal hill up which Jayce climbs with its old citadel the Plička plunges over ninety feet into the Vrbas



BOENIA. All around *Epilobium* and *Saxifraga* in the *Prong* and *Pless* ranges after the intrapud climber superb
Prong and *Pless* ranges after the intrapud climber superb
Prong and *Pless* ranges after the intrapud climber superb



The bridge, Puy-de-Frêne, and the river. The town is built on a hill, and the river flows through the valley. The bridge is a stone arch bridge, and the river is a small stream.



YUGOSLAVIA — Pencil-pointed minarets and the noble Greek cathedral at foot of the grim hill of Podvelež are salient features of Mostar



OTTO H. KACH

BOSNIA. Colossal as the bridge of Mostar is, the graceful proportions of its age tinted arch give it an appearance of airy lightness



*Where the Plien skirts the western side of Japo, it turns
a mill wheel before gathering force above the great waterfall*



BOSNIA — Incomparably beautiful is this silent pool before the
majestic rocky mass of Blagaj, where the river Buna springs into being



BO-NA. Pastoral scene, hills in end around stream, in the Pliet valley, where the winding stream and the
 clouds are seen, the hills are high, and the grassy ground for large flocks of sheep and



John Bushby

RUGGED SCENERY ON THE ROAD BETWEEN SERAJEVO AND PALE

Pale is a popular little place with mountain pastures and many attractive villas of Sarajevo residents, from which town it lies some ten miles distant. It is watered by the Miljacka, a tributary of the Bosna, and stands on the narrow-gauge Bosnian railway which connects Sarajevo with Visegrad.

This line, a triumph of engineering, pierces the heart of mountains and crosses terrific gorges

modern lines as well as its bazaar. It will readily be understood that the number of professional men is necessarily small—a few lawyers, a few doctors, a few professors and teachers, as well as the clergy of three denominations. Add to these some managers and experts of industrial establishments,

a few bankers, and, finally, civil servants attached to government offices, to posts, telegraphs, telephones and railways. The medical service is very restricted and not more than 25 per cent. of the young in rural areas attend school. The sons and daughters of the "intellectuals" go to distant universities

BOSNIA & HERZEGOVINA



SURVEY FROM THE CASTLE ROCK OF FAMOUS SERAJEVO, OTHERWISE KNOWN AS BOSNA-SERAI

John Bushby

Serajevo stands on the river Mljacka, 122 miles south-west of Belgrade, with which it has communication by railway. Rushing forth from a gorge just above the town, the river is bordered by steep cliffs, and its waters, winds that rush are turned through the unrelenting mass of buildings, dividing them into almost two equal parts. The city is a mass of buildings, and the river is a narrow, shallow stream, and the whole scene is a picture of a city in a valley.



GENERAL VIEW OF SARAJEVO, A GARDEN CITY WITH ITS MYRIAD MOSQUES AND MINARETS

E.S.A.

In a narrow valley at the base and upon the slopes of hills Sarajevo, the chief town of Bosnia. Well-wooded gardens are interspersed about the town, and the many mosques and minarets, churches, spires and prominent buildings, which stand out so diversified in form from among the rich foliage, give it a very picturesque appearance. Suburban villas and gardens are found in secluded hollows and on the higher slopes of the hills, which, rising to a height of 5,250 feet, almost surround the town when viewed as here, from the west with the exception of the Miljacka defile which winds away imperceptibly far into the mountains

BOSNIA & HERZEGOVINA



John Bushby

IN THE MARKET-SQUARE, THE FOCUS OF BUSINESS AT SERAJEVO

The Cersija is the business centre of the Mahomedan world of Serajevo. It consists of more than fifty narrow streets running at right angles to each other and flanked with wooden booths, where native goods are actually being manufactured. The Cersija is seen to best advantage on market-day, when the confusion of racial characters and the variety of costumes are truly amazing.



John Bushby

SUNSHINE AND SHADE BEFORE THE BEGOVA DZAMIJA MOSQUE

In the Cersija stands the beautiful Begova Džamija, the principal mosque in Serajevo and said to be the third finest in the realms of Islam. A stone fountain, for religious ablutions, occupies a corner of the courtyard, and near it an immense sycamore tree, with wide-spreading branches, overshadows the mosque and gives grateful shade to the pious Moslems who seek the temple at the hour of prayer.



F. F. Tuckett

MOSQUE AND FOUNTAIN, REMNANTS OF MOSLEM AUTHORITY

In Jajce, the former residence of the Bosnian kings, a town which passed through many vicissitudes during the Middle Ages, the charm and the romance of Bosnia are said to reach their zenith. The 350 odd years under Ottoman rule have left their mark on the old town: Moslem customs still linger among the Christians, and the minaret still rears its head amid the spires of Catholic churches

and technical colleges, but find small scope for their undoubted abilities unless they migrate abroad.

Several good main roads were constructed during the Austrian occupation, but of by-roads there are extremely few, unless what are merely cart tracks be counted. Railway lines total about 1,000 miles, but are of narrow gauge

and only single track, the principal one being from north to south, via Serajevo and Mostar to the Gulf of Cattaro, with branches east and west, including one to Gravosa in Dalmatia, on the Adriatic coast. It is expected that before long there will be a normal gauge line from Belgrade to the Gulf of Cattaro, via Visegrad, with a branch to Serajevo.



John Bushby

CHURCH HOLIDAY AMONG THE CATHOLIC COMMUNITY OF JAJCE

It was only in 1525, long after the fall of the Bosnian monarchy to the Turks, that Jajce was obliged to yield to its voracious foe, in whose hands it remained until the Austrian occupation in 1878. Despite Mahomedan influence, the majority of the Bosnians belong to the Greek Church; they are a religious people and many Catholics of Jajce still carry a cross tattooed on breast or hand.

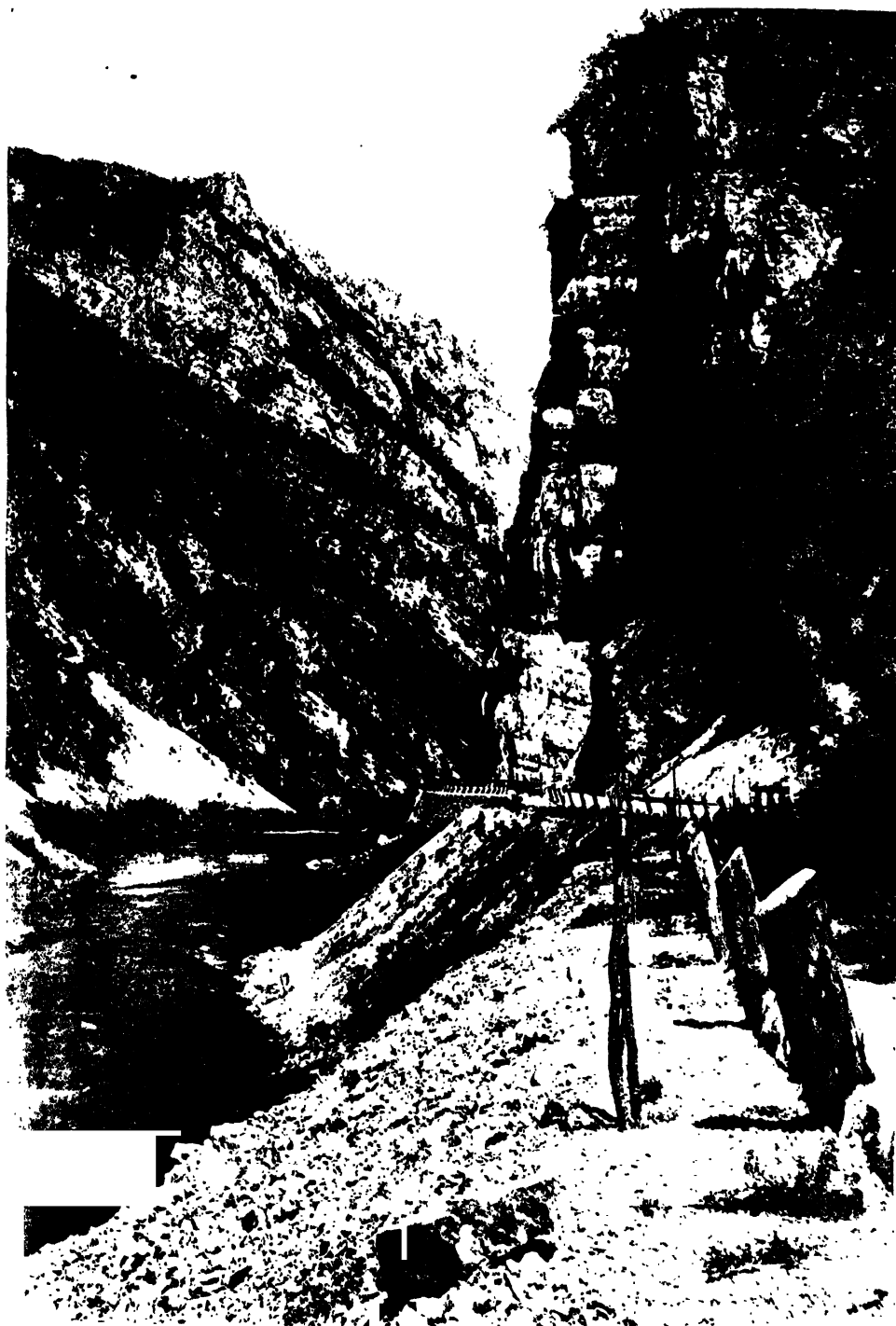


J. B. S.

John Bushby

JAJCE: IN THE HEART OF A NATURAL WONDERLAND

The Pliva Falls at Jajce form one of the finest cascades in all Europe. Here the Vrbas is seen swirling rapidly over a rocky bed through a winding high-walled ravine; the cloud of milk-white spray in the background indicates the spot where the Pliva river, swollen into a tumultuous torrent, leaps to a precipice of almost 100 feet to join the Vrbas below. For the falls themselves see page 885.



ROMANTIC ROUTE THROUGH THE VRBAS DEFILE NEAR JAJCE

The stately grandeur and varied scenery of Bosnia's mountainous regions are world famous. Jajce is justly celebrated for the loveliness of its environs. Precipitous walls of rock, sometimes bare, often plentifully bedecked with bushes and trees, line the course of the Vrbas, and the road running alongside the defile passes through a succession of scenic combinations of indescribable beauty.



STEEP AND NARROW ROAD LEADING TO THE VRBAS BRIDGE

Location of Jajce is an extremely strong one, being situated in the angle formed by the junction of Drava and Vrbas rivers, both with precipitous banks. The steep hill slopes are dotted with sharp-roofed houses, and rough narrow tracks, scarcely worthy of the name of road, wind up to the very edge of the abyss, at the foot of which the Vrbas river traverses a wild ravine.



John Bushby

FEMININE FASHIONS IN A SEMI-ORIENTAL TOWN OF HERZEGOVINA

Mostar is a most attractive town with its slender, high-arched bridge and quaint buildings clustering about the Neretva's banks. The mixed population is no whit less picturesque. The mingled influence of East and West is seen in many a curious variety of costume, and full Turkish trousers are sometimes worn by the Christian women, not infrequently with blouses of modern European fashion.



COMMERCIAL CORNER IN HERZEGOVINA'S CAPITAL

Situated in a district of great fertility, Mostar as a business centre has considerable importance, and in its markets the multifarious produce of the countryside is exposed. "Half Oriental, half Italian, and altogether Herzegovinian" is the town, whose handsome buildings - mainly Italian in character - stand out among decaying houses hoary and grey as the surrounding karst or limestone mountains.

BOSNIA & HERZEGOVINA



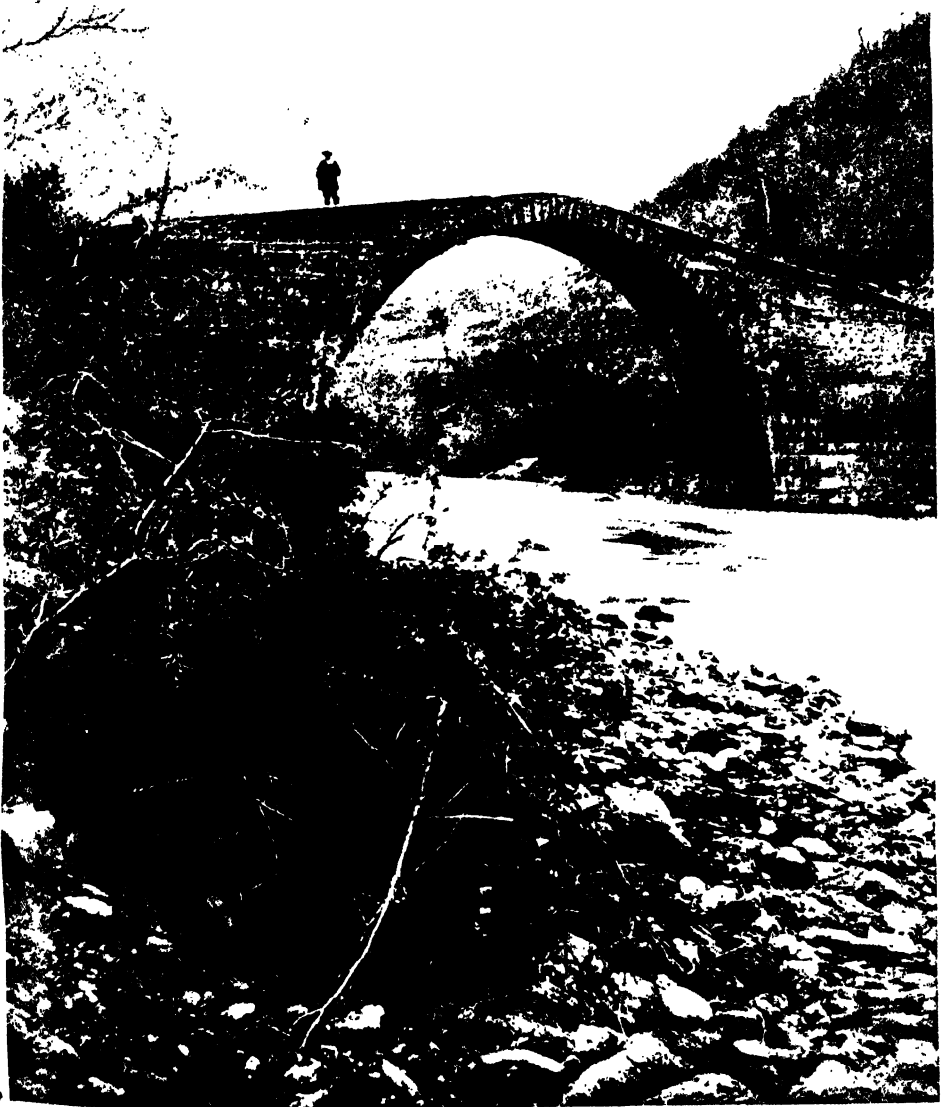
John Bushby

SPRING LANDSCAPE IN THE LOVELY MOUNTAIN VALLEY OF JABLANICA
Jablanica, with its vineyards, orchards and green fields, lies like a rich, fruitful garden in the hollow of a rocky basin. Arrayed in its green spring mantle, the town is seen in its most beautiful aspect, and the eye travels with wonder and awe from flowering chestnut groves and other luxuriant vegetation to the grim, arid rocks standing desolate and snow-streaked against the blue vault of heaven.



John Bushby

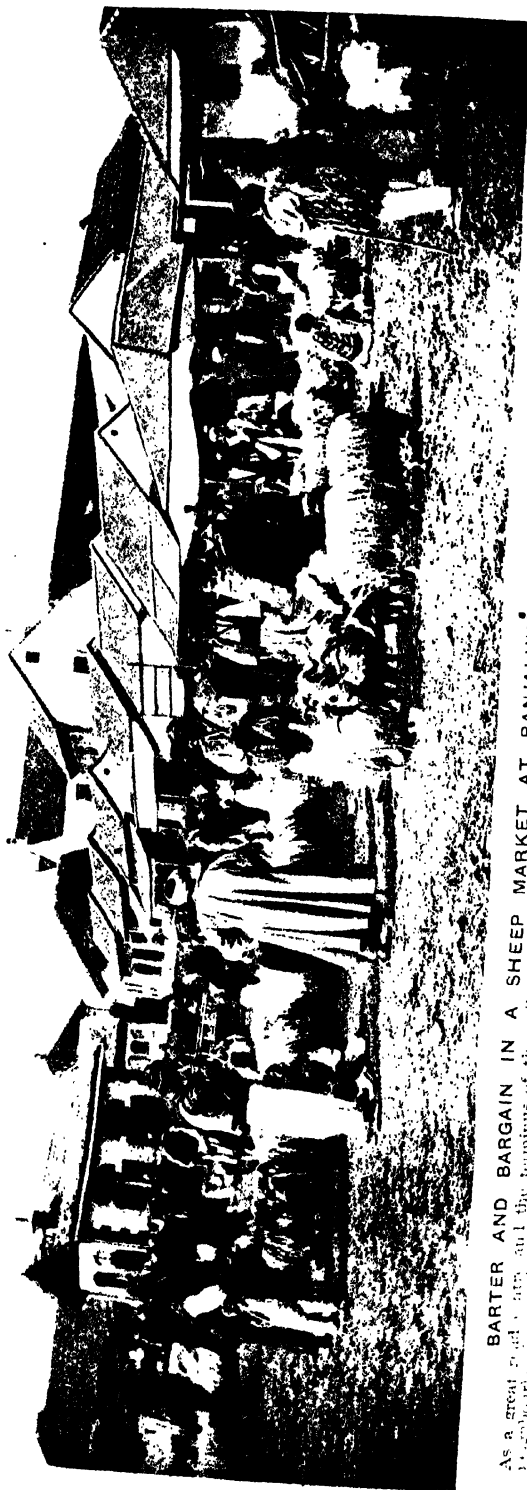
LONELY GRANDEUR OF THE BARREN KARST MOUNTAINS, HERZEGOVINA
Words convey but a faint idea of the fantastic, wild beauty of the Prenj, a group of mountains rather than a mountain, which loom ahead of the traveller approaching Jablanica. In the Narenta gorge a magnificent scene greets the eye; here nature is portrayed in her most sublime and solemn solitude, and only the shriek of the engine whistle disturbs the deep silence of these mountain solitudes.



John Bushby

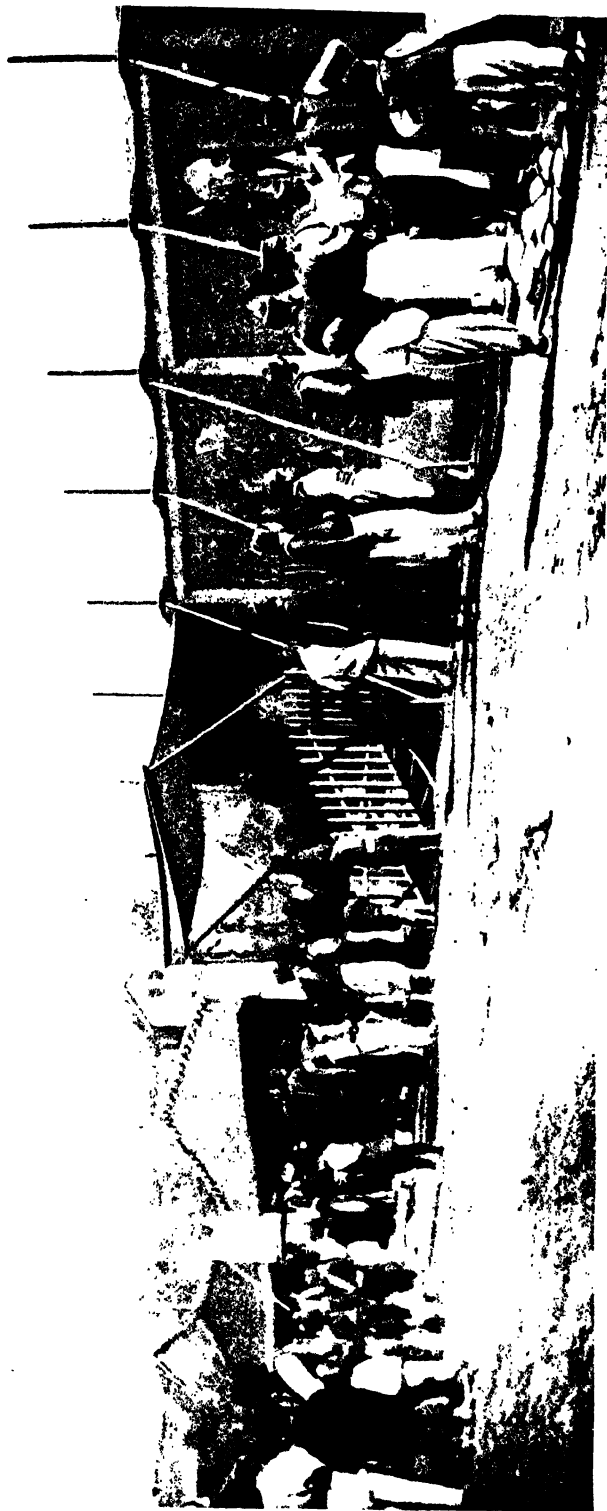
AMID THE BIZARRE BEAUTY OF THE WINDING NARENITA VALLEY

every of the most romantic character is to be found between Mostar and Jablanica, ever increasing beauty as the river winds northwards into the karst or mountain region of grey limestone. Quaint bridges span the rushing Narenta; now a flowery land or a shady retreat, now a wild ravine opens into view; and always in the background rises, tier on tier, an amphitheatre of fantastic peaks



BARTER AND BARGAIN IN A SHEEP MARKET AT BANJALUKA, A CENTRE OF TRAFFIC IN BOSNIA
 As a great trade centre and the terminus of the railway from Agrino, 126 miles distant, to the north-west, Banjaluka has a flourishing trade. The immediate neighbourhood, and a radius of 40 miles for the country round, are dependent on the town for its commerce. The market place is a study in Mohammedanism, and a study in the life of the people. The women, in their magnificent Turkish graveyards, are seen in their magnificent Turkish graveyards.

John Bushby



John Bashby

WESTERN ART IN AN EASTERN SETTING: SIDE-SHOWS AND SIGHTSEERS AT A FAIR IN BANJALUKA

The Bosnian town of Banjaluka, in a district of the same name, is situated on the left bank of the Vrbas, where the river reaches a lowland level in a broad valley encircled by mountains. The name Banjaluka, signifying the "Baths of St. Luke," is said to be taken from the hot springs, still known as the "Roman Baths," found in the vicinity. The history of the town goes back to the Roman time, when it served as a military camp, and later, under Roman and Turkish rule, Banjaluka enjoyed considerable importance owing to its strategic position on an ancient highway extending from the Save river to the Adriatic Sea.



John Bushby

STALACTITE CAVERN THAT IS THE CRADLE OF THE BUNA RIVER

In Herzegovina, a few miles south east of Mostar, rises a gigantic rampart of perpendicular rock; at its base yawns a cavern containing a clear mirror of water, deep and quiet and motionless as steel. Within the profound silence of this cavern the Buna has its source, and out of this quiet mirror of water springs the dancing stream, fresh and sparkling and cold even in the hottest summer.



IN THE VICINITY OF BOCAC. ON THE ROAD TO BANJALUKA

In the high mountainous regions of Bosnia nature is seen in her most impressive aspect, and here at Bocac, a charming spot commanded by an ancient ruined castle, situated between Jajce and Banjaluka where the Vrbas forces its way in fantastic windings through rocky defiles and fertile glens of exceeding beauty, is to be found some of the grandest scenery in the country.



TRAVNIK, A TYPICAL TURKISH TOWN IN THE BOSNIAN UPLANDS

On an affluent of the Bosna river lies Travnik, 45 miles direct and about 58 miles by railway north west of Serajevo. The town, which was the residence of the Turkish viziers of Bosnia until 1850, has a fine castle and a not unimportant bazaar. The bulk of its population is Mahomedan and two Mahomedan mausoleums are notable architectural features.



E. N. A.

VRANDUK, SPLENDID SPECIMEN OF AN OLD BOSNIAN FORTRESS

Vranduk, an ancient weather-worn fortress of Bosnia possessing a conspicuous ruin of a mediæval castle, is poised nest-like upon a high rocky peninsula, below which winds the Bosna, a tributary of the Save. The architecture of Vranduk is delightfully primitive; some of the houses are mere wooden shanties and most of them have a high, overlapping roof composed of wooden shingles.

BOSNIA & HERZEGOVINA



John Buchan

PRIMEVAL SIMPLICITY OF THE RIVERINE VILLAGE OF JEZERO

Jezero, a village comprising a handful of home-holds scattered on the banks of the river Pliva as it enters Lake Jezero, lies about six miles from Jajce and is famous all over Bosnia for its sylvan beauty. Several inviting houses are owned by rich Mahomedans retired into private life; the remaining architecture in this secluded spot is most primitive, many houses being partly built on piles

Small steamers and barges ply on the rivers Una, Drina and Sava, thus connecting with the Black Sea by the river Danube. Timber is frequently lashed together into rafts and brought down the fast-flowing, shallow rivers, in each case by a single man who shows remarkable skill when making the passage through rapids. Good telegraph and telephone services connect the chief centres with the outside world, and are worked by the state. Even stalls in Sarajevo market-place can show their telephone facilities, a modern advance of which many more important states might well be proud.

Home trade is carried on for the most part by the simple methods of old, while foreign trade is done as part of that of Serbia, being principally with Italy, Austria and Czechoslovakia. Plums

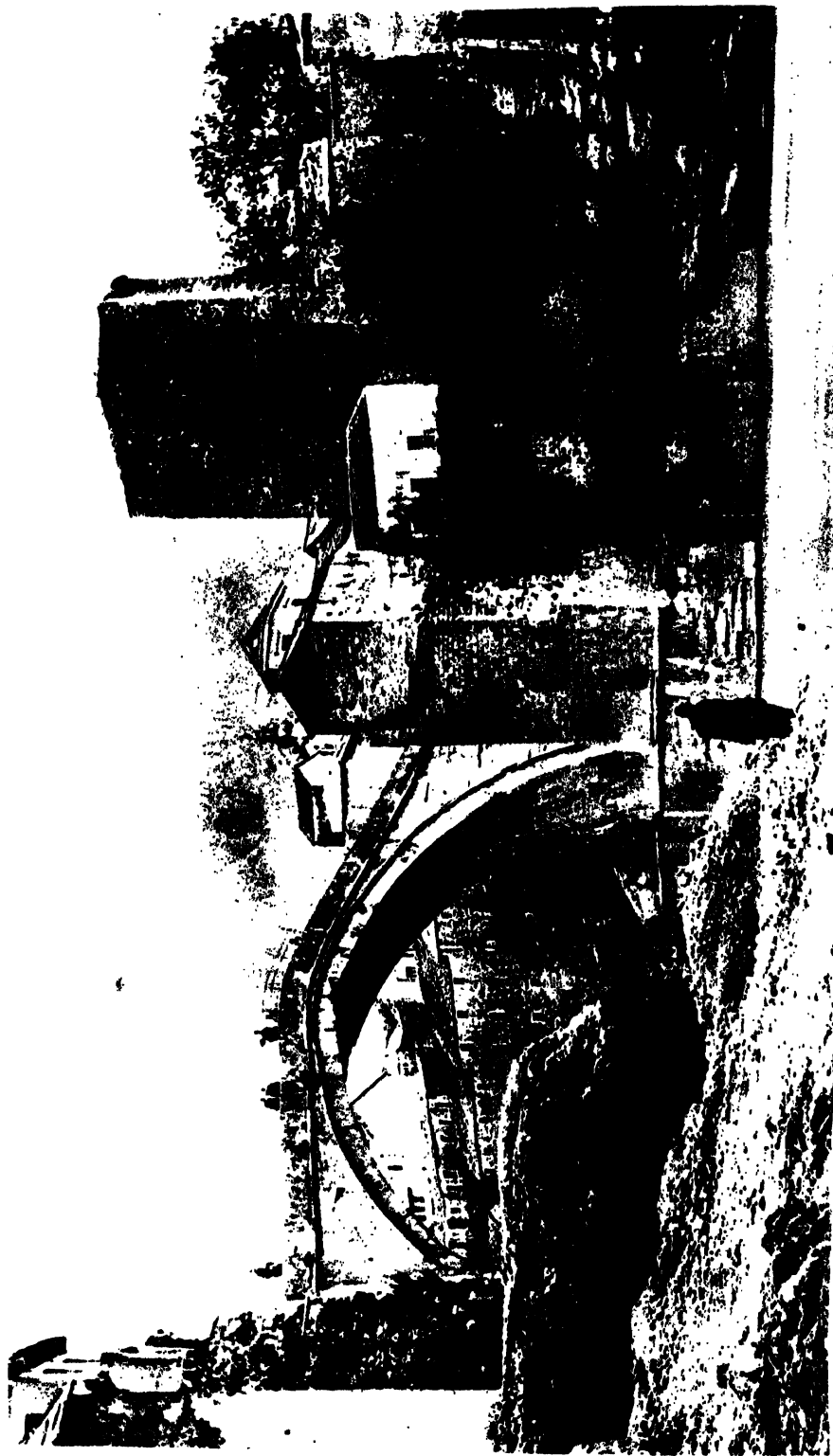
are sent out of the country to world markets, including France and Great Britain; timber and coal are exported, as well as some iron and steel, while cattle, sheep and pigs also leave the provinces to be marketed in the neighbouring countries.

The peasantry generally lead a hard life upon very simple fare. Many of the children spend the day in looking after animals and get no schooling at all. Villages and small towns are numerous in the north and north-east, where the land is most fertile; they are few and far between, however, in the more sparsely populated district of Herzegovina and in the adjacent karst region of Bosnia.

Many of the villages in Bosnia, with their ark-like wooden houses, are picturesquely situated, and when in a



BOSNIA. Two gate towers guard the approach to the ancient bridge that with its single span of 100 feet crosses the Narenta at Mostar



BOSNIA. *Mostar, meaning old bridge, takes its name from this stone arch that spans the Narenta at a height of sixty feet. Although locally said to be of Roman origin it is in fact a fifteenth century structure.* John Bushby



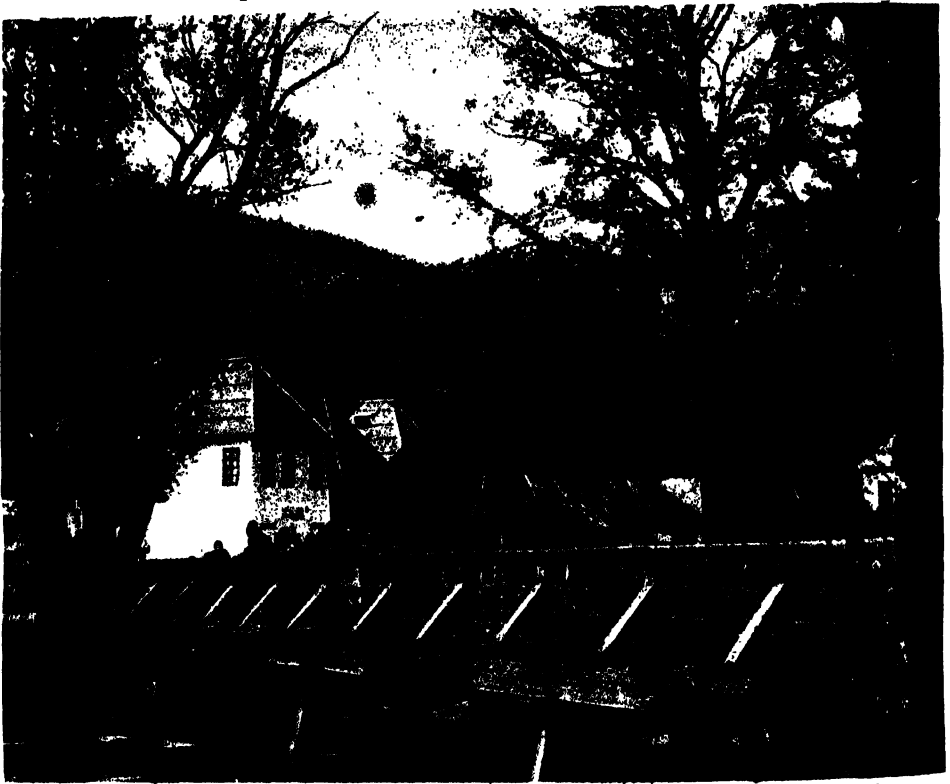
Joan Shelby

BOSNIA. Some of the finest mountain scenery in Herzegovina lies between Sarajevo and Mostar. Mountaineers and chamois-hunters frequent Jablanica where the peaks of the Prenj range hedge the Narenta valley



John Bushby

Capital of the medieval kingdom of Bosnia, Jajce is a charming town with steep-roofed houses crowded on the bank of the Vrbas

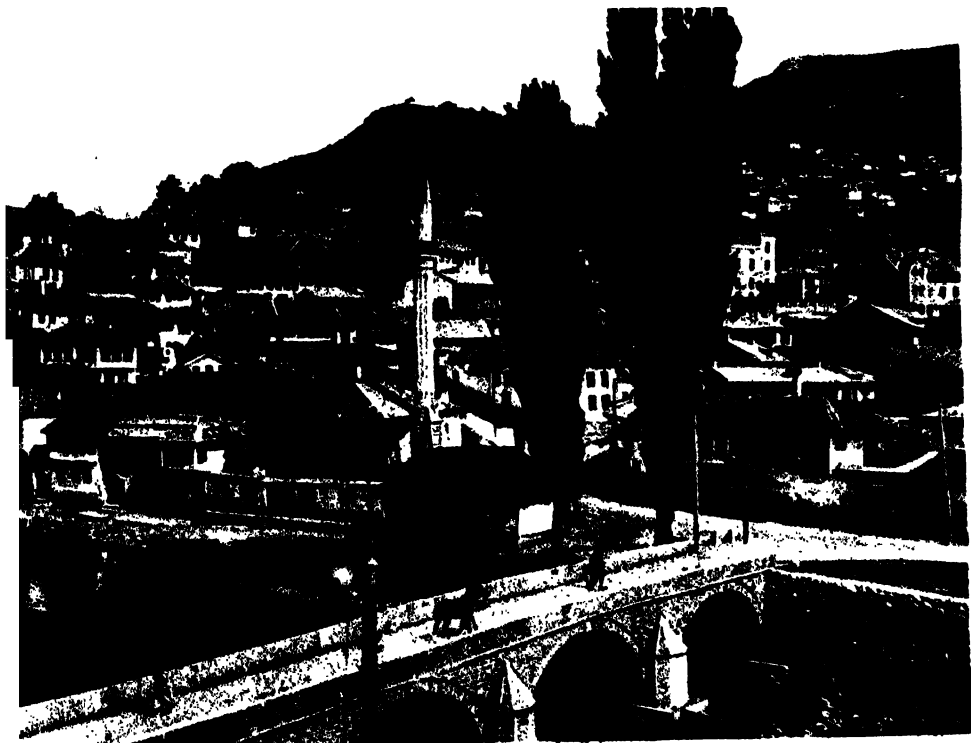


John Bushby

BOSNIA. Set amid meres and waterfalls five miles west of Jajce, Jezero is famed for its lovely lake that swarms with trout and crayfish



Serajevo is fast being westernised, but its mosques and bazaar give it an Oriental air and it is often called the Damascus of the North



BOSNIA. Groves of cypress enhance the beauty of Serajevo in its already lovely setting in the narrow valley of the Miljačka



BOSNIA. Stretched from north to south along both banks of the Narenta, Mostar is the business centre in Herzegovina. Barren as the enclosing hills appear, the district is a fertile one and trade is lively in the bazaar.



John Bushby

BOSNIA. Ark-like wooden houses with roofs blackened by smoke escaping from chimney-less hearths are common even in towns as large as Jajce. Many of them serve as cafés for the village peasantry



John Bushby

Although predominantly Turkish, having no fewer than thirty mosques, Mostar has but little of the Oriental about its newer quarters



John Bushby

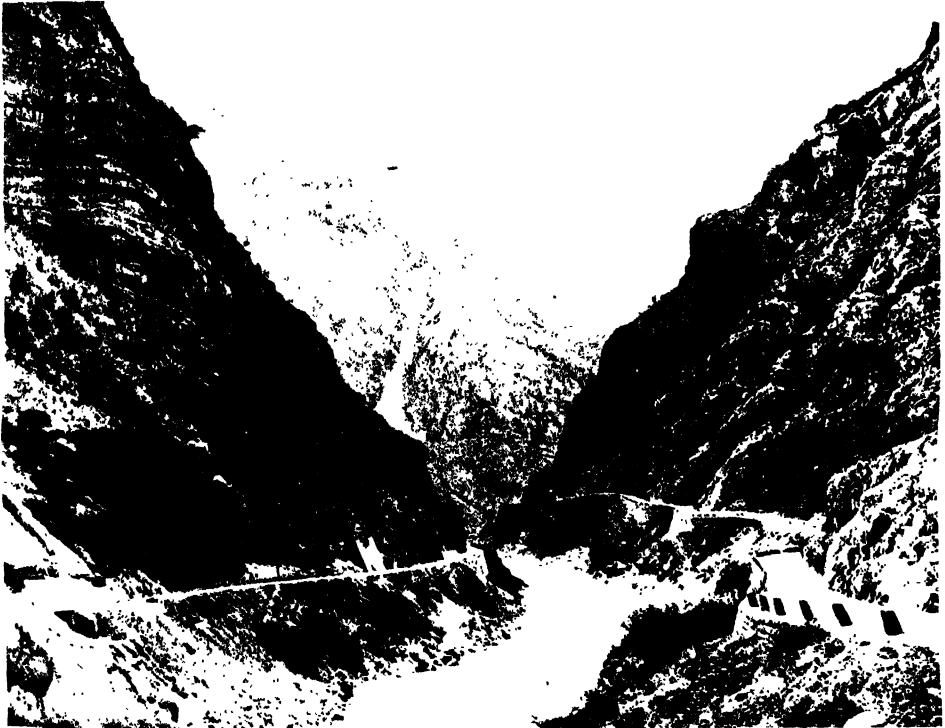
BOSNIA. More than half the Bosnian people are Christian, but way-side mosques like this near Jajce testify to the wide influence of Islam

Muslim district nearly always contain a mosque. Two or three small coffee houses provide recreation and refreshment, those of the Mahomedans especially being kept very clean. The typical Bosnian house of the countryside, of the villages and small towns is oblong in shape, with a very deep roof. The latter has blackened with age or smoke, while the body of the house is whitewashed. There is no chimney and the smoke from the wood fire oozes out from under the eaves, or wherever it can escape. In the Herzegovina and Bosnian karst region, with stone plentiful and wood scarce, the houses are built of stone and roofed with clay tiles.

Organized sanitation is conspicuous rather by its absence. The backwardness of the people—due to lack of universal education in the past—their intense conservatism and the reigning superstition

cause the district to lag behind the rapid advance of scientific knowledge. The towns are not much more than glorified villages, for even the larger ones—with the exception of Serajevo—only total somewhere between 4,000 and 17,000 inhabitants. Jajce, the ancient capital, charmingly situated, has under 5,000 residents and practically none of the ordinary amenities of civilized life.

Serajevo, the capital, with its 50,000 inhabitants, is a wonderfully varied city, Eastern and Western at the same time. Seen from the hills in a favourable light, it is a most entrancing place, everything in it appearing of a golden-yellow colour, broken only by the deeper red of the roofs, the minarets of many mosques and some church spires. The river, poetically named the "Gently Murmuring," flows through the centre of the city, and



John Bushby

THROUGH THE SCENIC SPLENDOURS OF THE NARENITA DEFILE

Worthy, indeed, is the Narenta to rank with the loveliest rivers of the world, and to follow its rugged course along the gorges which it has carved through the mountains is to find displayed on either hand a veritable marvel of creation. Of animal life there are few signs, but here and there eagles may be seen circling high above the inaccessible summits of the sun-burnt crags—



RUINS OF PAST GREATNESS: ROMAN BRIDGE OVER THE BUNA RIVER IN HERZEGOVINA

John Busby

In the days of the Roman Empire, the bridge was a masterpiece of engineering. It was built by the Romans and has been in use ever since. The bridge is a fine example of Roman architecture and is a testament to the skill and ingenuity of the Romans. The bridge is a fine example of Roman architecture and is a testament to the skill and ingenuity of the Romans.

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E. N. A.

CORNER OF KONJICA, A DELIGHTFUL OLD TURKISH TOWN ON THE BANKS OF THE NARENTA

Charmingly situated on both banks of the river Narenta, the picturesque old Turkish town of Konjica makes an attractive display of mosques, minarets and other picturesque buildings. The Narenta is comparatively tranquil at this spot and is spanned by a Turkish stone bridge of several arches, of which a glimpse may be seen above on the left, a fine antique structure rivaling the bridge at Mostar. In pre-Turkish times Konjica was a place of some prominence; the railway that brought it into communication with Sarajevo and Mostar revived its importance, and now as a town of Yugo-Slavia its prosperity is rapidly growing.



John Bushby

FAR-FAMED BEAUTY SPOT OF BOSNIA

This lovely stretch of water, known as Lake Jezero, lies near Jajce in the Pliva valley. Its beautiful location, the superb waterfall in its vicinity and the blue trout which teem beneath the calm serenity of the lake attract many visitors.

the whole is surrounded by wooded green hills and cultivated fields. The principal mosque, in the heart of the old quarter, is well worth a visit, while a stroll through the strange alleys of the bazaar, with its Oriental-looking people, is a delight to lovers of the artistic.

Up the hills, on the outskirts of the city, are many quaint cobbled streets, old-fashioned houses with latticed windows, and here and there a dilapidated Turkish cemetery, forlorn but picturesque. In contrast, there are modern streets with smart shops, large cafés, two or three good hotels and even a cinema hall. Among government and municipal buildings are a general post office and a city hall, which quite put in the shade

English buildings of similar character in towns of the same size.

Apart from the numerous mosques of the Mahomedan population are the cathedrals of the Orthodox and Roman Catholic Churches and both are imposing structures. The temple of the Spanish Jews is another notable building, and last but by no means least is a thoroughly good museum of antiquities containing a marvellous collection of life-size

models showing the many national costumes worn by the inhabitants of the two provinces.

The people of Bosnia-Herzegovina belong entirely to the Serbo-Croat branch of the Slavonic race and speak the same language, though classing themselves according to three religions: viz.: the Serb Orthodox, the Mahomedan and the Croat Roman Catholic.

To sum up, there seems no reason why, with the advance of modern education and better use of the undoubted wealth of the provinces Bosnia and Herzegovina should not become "a land flowing with milk and honey." They are beautiful and picturesque, and the traveller would find in them much to delight if he does not mind roughing things a little.

BOSNIA & HERZEGOVINA: GEOGRAPHICAL SUMMARY

Natural Divisions. South-west, the karst limestone region of the Dinaric Alps. North, Danubian lowlands along the Save river. Middle, hilly country. Herzegovina is the Neretva valley with drainage to the Adriatic.

Climate and Vegetation. South-west, Mediterranean climate with winter rains, bora and sirocco winds. North and middle, continental climate with summer rains. Karst vegetation on the porous limestone of the Alps. Forests on the slopes and fertile woodland or cultivated land on the valley floors.

Products. In Bosnia, mainly forest and field products, plums, apples, maize and

wheat, sugar-beet; sheep and goats, pigs (see Serbia). In Herzegovina, Mediterranean crops (see Italy). Coal and iron as raw products await exploitation, and iron, paper, petroleum and sugar industries await development.

Outlook. Formerly under the blighting rule of the Turk, latterly developed slightly under an Austrian regime in Teutonic fashion, the country, as an important unit in Serbia with a measure of political liberty, should pass from the stage of self-centred local production to the more progressive condition of a purveyor of supplies on which foreign trade and exchanges can be based.

BOSTON

America's "Athens of the North"

by W. L. George

Author of "Hail, Columbia," etc.

THE average British assumption is that Boston represents American culture, that it is ancient, that it parallels, let us say, Oxford or Cambridge, and that the Bostonians resemble the British. All of this is true, but much of it is not as true as it was in the seventies of the last century. Boston is not a university city, and the people who thus regard it are ignoring the modern Boston in the midst of which this Athens of the north is almost lost.

There are two Bostons, so it is not remarkable that the visitor who walks about Beacon Hill and discovers the Georgian fan-lights of the houses in Louisburg Square should tell himself that he is in Westminster. He is, and to-day a few Bostonians, certain old families which still occupy houses built by their forefathers two hundred years ago or more, conduct their lives as most old English families do in Westminster. But America is hardly aware of it, except for purposes of cockery. Old Boston has ceased to count, though Harvard at Cambridge, a suburb of Boston, still counts.

Where the Heart of Boston Beats

Harvard is quite the most respected of the American universities; it is richer than Yale, Columbia, Chicago; it is a great institution, but, while it maintains classical culture, it is much prouder of its medical school and its engineering faculty. An air of antiquity remains about the red brick colleges, whose pure Georgian architecture delights English eyes, but within all is modern.

It is not in the black old houses that the heart of Boston beats, but in the tall residences in Commonwealth

Avenue, and in the shops in Tremont Street. Old Boston survives as a sort of prisoner of the New Boston, and the irony of it is that Old Boston, that most English city, is the prisoner of the Irish immigrant.

Throngs of Alien Immigrants

According to the census of 1920 the population was 748,060. Thus Boston stood eighth in size among the American cities, but it is no longer a growing city. Active and rich, it still draws immigrants, but the broad flood of European adventure now turns to the West and the Far West. The population has, it is true, doubled since about 1884, a fact which in England would be sensational, but we need only compare Boston with, for instance, Duluth, which in 1860 had eighty inhabitants and in 1920 had over 898,000, to realize that Boston, though a great city, has become stabilised.

It has been stated that Old Boston is the prisoner of the Irish; these make up the greater section of the aliens. The alien question evokes a remarkable side of the city; at the time of the 1920 census Boston held 220,000 persons who were either alien or naturalised. Over a quarter of the total population was non-American. This is not a unique phenomenon since Chicago, Cleveland and others are equally situated, while New York has a still larger proportion of aliens; but it does show how Boston has changed since the early eighteenth century, when almost every inhabitant was the American-born child of English or Scottish settlers.

This accounts to a certain extent for the wealth of Boston and its importance in the American scheme,

for the alien is hungry and restless and has achieved in manufacture what old Boston achieved in banking and trade. A few facts will show how high the city stands in the American business world. In banking Massachusetts (of which Boston is the capital) stands fourth of all the American states, though it is so small that it can be lost twenty times over in one of the big Western states. It stands fifth in manufactures, while Boston City itself stands fifth in value and fourth in income. In spite of the immense development of the West, Boston remains among the leaders, not through numbers but through economic power.

It stands high in other ways. The Puritan and Pilgrim influence of the

hardy Nonconformists who would not tolerate the Stuarts is one of work, thrift and clean living. The moral ascendancy of Old Boston has imposed itself upon the aliens, so that to-day we find in Boston, and over the whole of New England, a proportion of illiterates three times less than the average of the United States; we find a rather strict divorce law and a suicide rate lower than in any other part of northern America. Therefore Boston offers a picture of prosperity; not of expansion, but of rather static power. More sedate than the West, less adventurous, it takes as much pride in being as the others in doing.

As a city Boston is difficult to describe because it contains so many



BOSTON OLD AND NEW, SEAPORT CAPITAL OF MASSACHUSETTS



County Court House has been built in granite and is nearly 500 feet long, but it succeeds in being heavy rather than impressive. The Museum of Natural History and the Massachusetts Institute of Technology are also less impressive than overwhelming. Far more attractive are the ancient houses such as the old South Meeting House and Faneuil Hall, which has been rebuilt.

Brown Brothers

REVERE'S HOUSE

Paul Revere was the leader in the "Boston Tea Party," and Longfellow gave immortality to his ride from Charlestown to Lexington

public buildings. A bare list of these would fill up the whole of this chapter, so that one must select and thus do injustice. Perhaps the State House, the parliament of Massachusetts, remains most clearly in the memory, partly because it stands upon Boston Common, the city park, where many elms grow. It is imposing in its whiteness under the great gilt dome which gives it a touch of Orientalism, unfortunately belied by an ugly addition in yellow brick and white marble greatly burdened with pillars. The older portions date from 1795.

The architectural efforts of Boston have not always been fortunate. For instance, the new



TREASURED MONUMENT OF OTHER DAYS

Built in 1748, the Old State House was restored in 1882, and now contains a collection of paintings and antiques connected with the town. It was originally the seat of the Massachusetts Government in the old colonial days.



FISHING SMACKS DWARFED BY THE HEIGHT OF CUSTOMS HOUSE TOWER

All round the north east of the city, fronting on Boston Harbour, is a busy stretch of wharves and docks where a tremendous export trade is handled. In the fish trade, too, Boston is second only to London, and fishing fleets occupy much of the available wharfage when in port. The tower is the Customs House Tower, and in the middle distance are the aerial masts of a great fruit company

It is in Copley Square that we perceive the nobility of New Boston. Imagine a large space out of which branches Boylston Street, one of the main arteries of Boston, a space entirely surrounded with striking buildings. On one side stands Trinity Church, a rather attractive building for its age and has avoided the commonplace Gothic and has been erected according

to the purer lines of the Renaissance style. Opposite stands the Public Library, also a Renaissance building, decorated by Saint-Gaudens. Its chief beauty lies in the fact that it is nearly four times as long as it is high; it affords a worthy home for what is said to be the largest free library in the world, since it houses close on a million volumes. On the south side is the



HISTORICAL SCENES IN THE ROTUNDA OF BOSTON STATE HOUSE

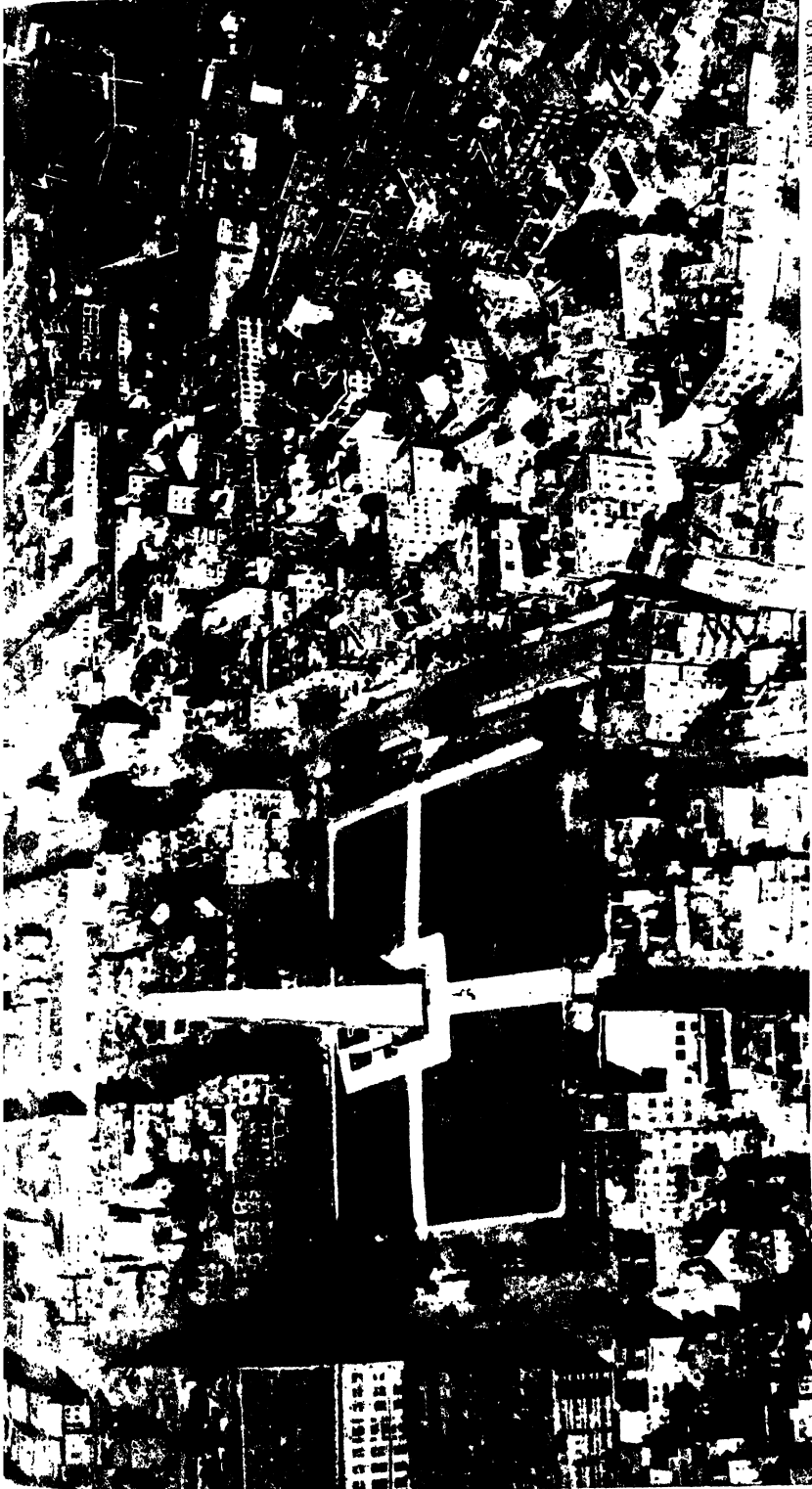
Standing as it does at the northern end of the Common, the State House is one of the most outstanding of Boston's public buildings. A broad façade with a pillared portico surmounted by a large gilt dome marks the exterior, while inside the decoration is most lavish. The rotunda, with its marble floor and terrace, has several wall paintings such as this one showing John Smith among the Indians.



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HIGH ABOVE THE ROOFS OF THE GREAT SQUARE BUILDINGS IN THE HEART OF BOSTON CITY

An aerial view of Boston, Massachusetts, showing the dense urban landscape and the prominent skyscrapers in the heart of the city. The image captures the architectural diversity of the city, from the historic, low-rise buildings to the modern, high-rise structures. The foreground is dominated by a large, dark, tree-filled area, likely a park, which contrasts sharply with the built environment. The overall scene conveys a sense of the city's unique character and its position as a major urban center.



Keystone View Co.

BUNKER HILL MONUMENT AND THE STREETS OF CHARLESTOWN SEEN FROM THE AIR

In the American War of Independence the first considerable engagement was fought at Bunker Hill on the outskirts of Boston. Its effect was to destroy the previously unshaken belief that it was utterly hopeless for the volunteer forces of the Colonists to oppose the regulars of Britain. The site, formerly a small eminence but now practically level, is marked by an obelisk of grey granite, 220 feet high. Seen here from the south, the streets that converge on Monument Square are, on the near side, Pleasant Street, Monument Avenue and Sokey Street, with Concord and Lexington Streets facing them on the opposite side

BOSTON



Aerodrome, Ltd.

INTRICATE GANGLION OF CROSSING STREETS AND RAILWAYS IN THE CENTRE OF BOSTON

Museum of Fine Arts, which is not too fussy, while the rest of the square is made up of the New Old South Church, in Gothic fortunately devoid of oppressiveness, and the Copley Plaza Hotel, modern and severe in its lines.

One despairs of naming them all, and yet one does not want to forget the Customs House, domed over its granite base, or the hall occupied by the Honourable Artillery Company, the American sister of the British company now located in Finsbury.

Notably, one would like to give a little space to Harvard, one of the three American universities which can compare in architectural beauty with Oxford or Cambridge. Most appealing are Harvard Hall, Emerson Hall, little Holden Chapel; in Harvard we find spreading lawns, and in many places the turf has been rolled as often as in the Oxford quadrangles. The contribution of Harvard, which is a contribution of Boston, to the American mind is more important than a mere contribution of knowledge. In addition it represents a certain standard of manners, a certain power of polish. It is most manifestly a place that gives a gentleman's education and it combines this with the matchless vitality and the restless courage that have made America into a great nation.

Leaving aside Harvard, which lies outside Boston proper, a word should be said of the exterior parks. The Americans in this sense remain rather British, since almost every important American city has created or is creating



BETWEEN TWO CITY PARKS: CHARLES STREET

Two fine parks, the Common (right) and the Public Garden (left), still remain in the busiest quarter of Boston. Our view is along Charles Street from Park Square; notice the rows of "parked" motor-cars, characteristic of American cities.

a park. Whereas many great European cities have, properly speaking, no interior parks and must be content with what is practically the countryside, the British tend to reserve spaces while their cities grow.

The British spirit has survived in Boston and thence pervaded much of America. For instance Franklin Park, at Boston, is nearly 500 acres in size, large enough to include a golf course, and to leave abundant land for the public. From City Point to the Public Garden 2,400 acres of park are open, while outside the city extends an outer line of parks, Blue Hills, Revere Beach, etc., making up 11,000 acres of open country, a park system extensive enough to provide a motor-car with



AMERICA'S "CRADLE OF LIBERTY"

Faneuil Hall stands in Dock Square, the market quarter of Boston. Its name, the "Cradle of Liberty," is given to it because it was the centre of much patriotic oratory in the revolutionary days. In later times, too, it was associated with many reform movements

fifty mile run. And indeed, Boston has proved itself more British than the British, for it has set up these great parks to which England is so attached and has developed them upon a scale to which England cannot aspire, because English land is dear and scarce. Land has never offered itself to the English as the endless prairie does to the Americans.

The writer trusts that the random remarks which go before are making up in the reader's mind a composite picture which by degrees takes shape. A city cannot be figured otherwise in appearance and in personality because a city is more various than a landscape. A city is merely a house multiplied by a hundred thousand, and yet, because a hundred

thousand houses have been brought together, an individual spirit forms which is not to be detected in separate inhabitants, but is a common heritage.

In fact, the spirit of Boston is more fluctuating than that of most American cities. While New York is essentially a city of finance, a human clearing-house where people wait for an opportunity to go West, Boston is a permanency. Also its spirit is made up of two conflicting strains. Aristocrats still dwell in Boston, mainly concerned with banking or shipping or the learned professions. Henry Adams, whose book, "The Education of Henry Adams," made a sensation, and Senator Lodge, the prominent American politician, are typical of Boston and bear great Boston names. William Lloyd Garrison, Benjamin Franklin, Daniel Webster, Prescott, Charles Sumner,

Samuel Adams Hawthorne, Emerson, Longfellow, Lowell, Howells, all these Bostonians, great in politics, poetry, history or public service, provide historical landmarks in "the land of the bean and the cod," as Boston with the rest of New England is called.

Indeed, Boston is often called by harsher names, for in America it is both admired and detested. The aristocrats have never been kind to Western America. They have been inclined to say: "What is Chicago? Is it a wine or a cheese?" Their tendency has been gently to close, though never to slam, their Georgian front doors upon the rising tide of American life. The writer does not know an anecdote against Boston, but in his mind hangs one

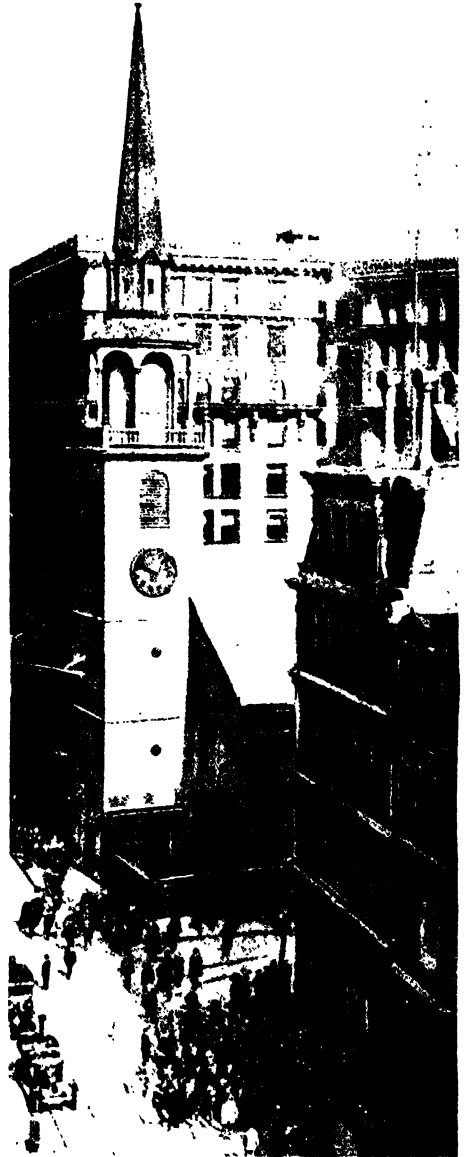
which is related about Philadelphia, a city of equal antiquity. A man from Illinois, giving dinner to a Philadelphian, offered him a dish of edible snails. The Philadelphian devoured them with such enthusiasm that the man from Illinois at last asked him whether they had no snails in Philadelphia. "Oh, yes, we have," said the Philadelphian. "But we can't catch 'em." This fairly summarises what America thinks of the East, Boston as well as Philadelphia. In addition, a Bostonian is supposed to digest pure thought more easily than ice cream, to indulge in the English accent and to wear his coat on the hottest day, looking through a monocle at those who go about in their shirt-sleeves.

This is true to an extent, except that the stage Bostonian, for that is what he is, is becoming very scarce, though a certain cleavage does exist between Boston and the West. Boston is somewhat inclined to solve its problems by "ignoring the weight of the elephant." That is why Boston is frequently reviled in the Western states—except in so far as most Westerners show no reluctance at all when they inform you that their father was born near Boston Common.

Aristocratic Boston may still be glimpsed. It is not easily reached since the ground floor curtains, which look so lacy, prove unexpectedly thick. The population is not inclined to make friends in the Pullman car. It wishes to know whether you are one of the Shropshire Smiths or one of the Westmorland Smiths. It does not take its holidays in Atlantic City. It prefers, according to income, Deauville or Italy. It is a cool population, but when it is reassured it provides a certain reserved grace of intercourse. Old Boston is a distant cousin of Cranford, Cranford grown rich.

About this old society, which does not increase because it is a society that cares for position rather than for money, hisses and bubbles the vast alien stream. The Irish are of it, 150,000 of them, crowded together in North End by the side of the Poles, the Russians, the

Swedes, the people who are going up because they can fall no lower, the people who know nothing except desire, who have not had time to acquire virtues which they cannot afford, people who do not know Old Boston and so do not even dislike it, who hack their way into the schools, hack it into the banks, vital, lustful and ruthless.



BOSTON'S HISTORIC SHRINE

Few relics of early Boston still remain, but the Old South Church, erected in 1732, has been preserved. It was the scene of protest meetings that preceded the "Tea Party"



COPLEY SQUARE WITH ITS PUBLIC LIBRARY

Near this spot are no fewer than seven public buildings, including the Natural History Museum, Massachusetts Normal Art School and the Museum of Fine Arts. Copley Square is called the centre of intellectual Boston, and in the midst of so many edifices devoted to learning it seems to deserve the title. Behind the library rises the tower of the quaintly named New Old South Church.

So the future of Boston foreshadows itself in the mind of some people with a certain sadness. Old Boston has ceased to count and New Boston does not yet count. It is a city in transition; it may maintain itself as a centre of culture for a long time yet, but in the end it will be beaten by the vitality of the West, by the West which regards new knowledge

as the happy disguise of the old. As universities arise over the whole of the continent, as the benevolence of millionaires gives Wyoming or Texas the greatest libraries or laboratories, Boston will lose its sway. It will retain its reputation, not by being Boston, still Boston, always Boston but by becoming Denver - more so.

BOSTON: ECONOMIC SUMMARY

Situation. On Boston Harbour at mouth of Charles river, Massachusetts Bay. Harbour is 9 miles by 16 miles, with numerous wharves and docks, and is protected by forts.

Communications. Exterior—two main-line termini within the city. Interior—extensive trolley-car system partly along the streets and partly by subways.

Public Services. Up to date in every respect, particularly notable being the efficient sewerage and the water supply, brought by aqueduct from a reservoir with a capacity of nearly 80,000,000 gallons.

Trade and Industry. Though the largest port next to New York in the

United States, Boston's main wealth today is derived from manufactures rather than commerce; important items are sugar, molasses, clothing, boots and shoes, confectionery, tobacco goods, musical instruments, rubber goods, furniture, etc. The printing trade is among the largest, while shipbuilding is one of the oldest and still of importance. A large export trade, however, is still conducted in most of the products of the continent (see America, North), while imports consist mainly of coal, chemicals, iron, leather, fibre, wool, cotton and sugar, both in their manufactured and in their raw states.

From the Editor's Desk

(CONTINUED)

ANOTHER correspondent says: "As I note that you are carrying on the excellent scheme of allowing subscribers to make suggestions, I should like to make one or two myself," and then goes on to elaborate the same idea as that put forward by Mr. Hart in his second alternative. This, I admit, is an extremely attractive proposal, and without committing myself to anything definite at the moment, I may say that in all probability the last Part of the present work will contain a series of coloured maps comparable to those which appeared at the end of "Peoples of All Nations." With regard to the other alternative of my first correspondent, however, I must demur.

Our Maps Repay Study

WHAT he desires seems to amount to a general simplification of our maps, and as an illustration he cites the map of the Atlantic Islands in Part 4. Now this at the time appeared to me a particularly good map, and I will give my reasons. A map that appears to reveal everything at a glance is a bad map, for it creates an illusion of simplicity where there is none; patient study of a worthy subject is never wasted, and our maps deserve patient study for they have a lot to tell. In the chapter in question we were concerned with an area of the world's surface, with the Atlantic Islands considered as co-ordinated portions of the Atlantic bed rather than as isolated and meaningless phenomena; hence the value of the ocean depths and ocean currents, details which no ordinary map would show. Furthermore, the actual physical features of the islands themselves were shown in maps inset at the side. What more could one desire? Colour, it seems! But the expense of that, I am afraid, would be altogether prohibitive.

The Question of Margins

IN spite of what I thought, some time ago, was a perfectly clear statement on the subject, I still find that letters reach me complaining that the narrowness of the inner margins in COUNTRIES OF THE WORLD does not allow the Parts to open sufficiently. Let me repeat, then, what I said before. Our Part publications are produced with the specific idea of being bound: the only reason why they are not sold in volume form from the first is because the Part scheme of production allows the price to the public to be halved at least. When the Parts are bound the steel wires at the back are removed, and the inner margins then become amply large enough. Were they any larger in the Parts, they would in the volumes be out of all proportion to the rest of the page.

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WORLD

EDITED BY
J.A. HAMMERTON

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Contents of this Part

BRAZIL	- - -	Map & 27 Photographs	- -	F. A. Kirkpatrick
BRITTANY	- - -	" " 33	- -	J. A. Brendon
BRUSSELS	- - -	Plan " 19	- -	E. Gilliat Smith
BUDAPEST	- - -	" " 27	- -	Walter Jerrold

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From the Editor's Desk

THE FLEETWAY HOUSE, FARRINGDON STREET,
LONDON, E.C.4

NOMENCLATURE in the Balkans and Eastern Europe generally seems obsessed with the letter B, which is a little unfortunate from our point of view as it tends to diminish the variety of interest after which we strive. In the last Part, for instance, we visited Bosnia and Herzegovina, in this one Budapest comes up for treatment, and in Part II both Bukarest and Bulgaria will occur. There is one compensation, however, and that is the really magnificent scenery which is to be found throughout the whole area. Budapest with its wonderful glimpses of the Danube makes a delightful chapter, while Bulgaria, contributed by Mr. Frank Fox, with a complete colour section will be no less effectively illustrated.

Features of the Next Part

OF the other chapters in Part II, Bukarest is described by Miss Florence Farmborough, a widely-travelled authority on Eastern European affairs, while I myself have attempted to paint a faithful picture of Buenos Aires, in which astonishing city I spent a most interesting period of my life. Picturesque Burma has a photogravure section devoted to it, and is treated by Captain Kingdon Ward; but for the second photogravure section, illustrating Cairo, the text will stand over to the following Part.

"So Many Men, So Many Opinions"

IF OFTEN find that when a correspondent takes particular exception to some feature of a work, another will appear almost at once to champion the very same point; so that, although well pleased, I was hardly surprised to receive a letter from a lady who wishes to mention one or two outstanding points which appear to her immensely "in Countries of the V..."; and instances "the placing of the

names of towns or countries in the place usually occupied by the page number." Almost at the same time there arrived another heartening little note which I cannot resist quoting:

Sir, I was disappointed to read the letter you printed in your last notes from "J. D." I think that Countries of the World is just splendid and what I've wished to read for years. I like to read about the climate, plants and the country generally, and am only glad that there is not a lot of history in it. It's just A1, and don't alter it for anybody.
Yours, etc., S. H.

Wilkes Terrace,
Leamington Spa.

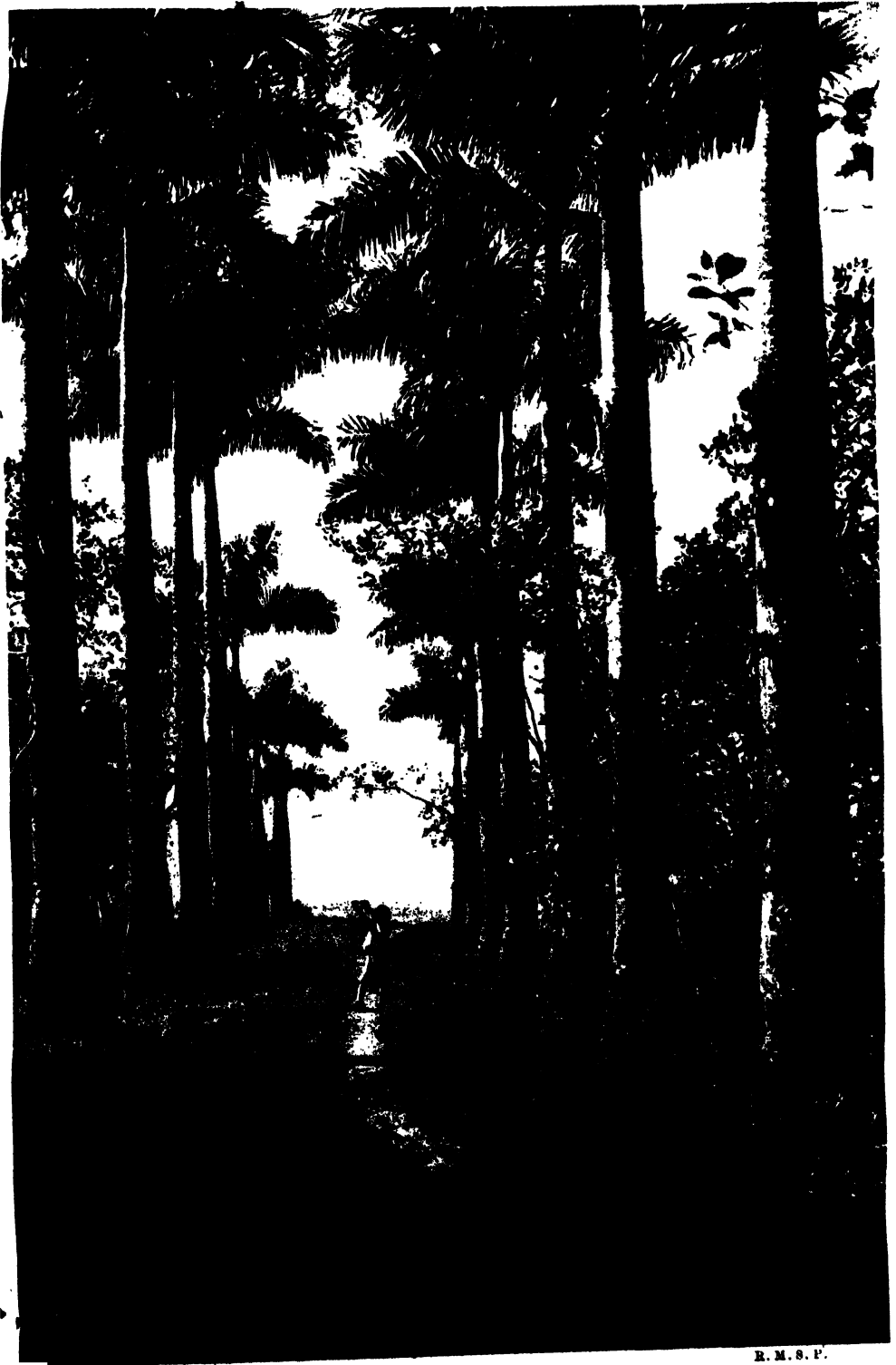
A Mission Fulfilled

HERE is one of those letters which do one's heart good to read—a letter that shows the wide public to which Countries of the World appeals, illustrates the honest nature of the appeal, and shows that the work not only has a mission but can fulfil it. I print it without comment:

Dear Sir—It has been for a long time on the tip of my pen, as it were, to write you, but I have been afraid, seeing that I am only just an ordinary working man and that my grammar and diction would be indifferent. I feel that I cannot refrain any longer. Many years ago I started taking an interest in things scientific. My first purchase was a Popular Educator; my next, Sir Robert Ball's "Story of the Heavens," "Wonders of the World," "Harmsworth's "Popular Science," "Peoples of All Nations" and "Wonders of the Past," besides Dickens and other great authors. Now, as I stated before, I am only an ordinary working man, getting on in life; and not being overburdened with this world's goods, I felt the time had come when you and I must part company, but on reading your supplement, I felt as if you were appealing to me alone.

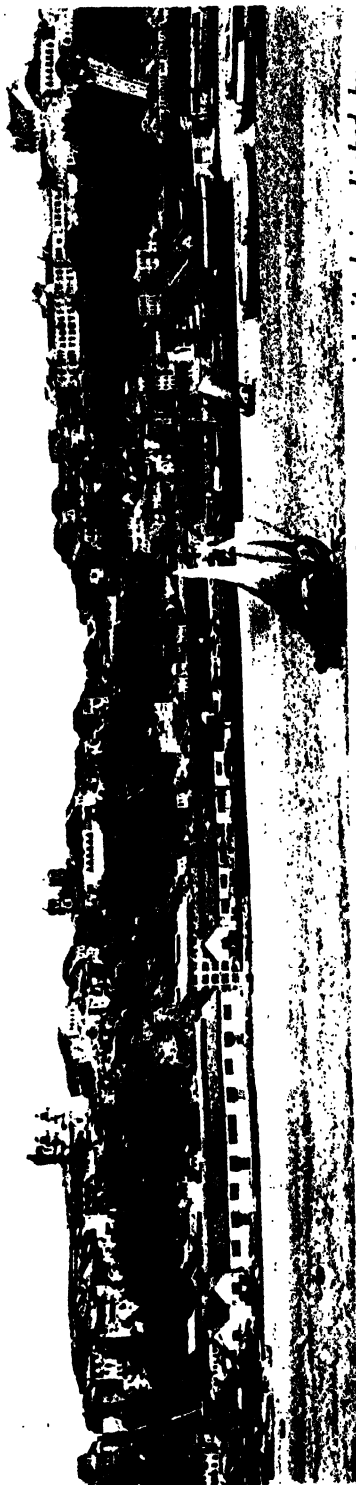
It has been my lifelong desire to roam the world, to peep into every hole and corner, to visit all sorts and conditions of men, a desire utterly impossible

(Continued on page iii of this wrapper)

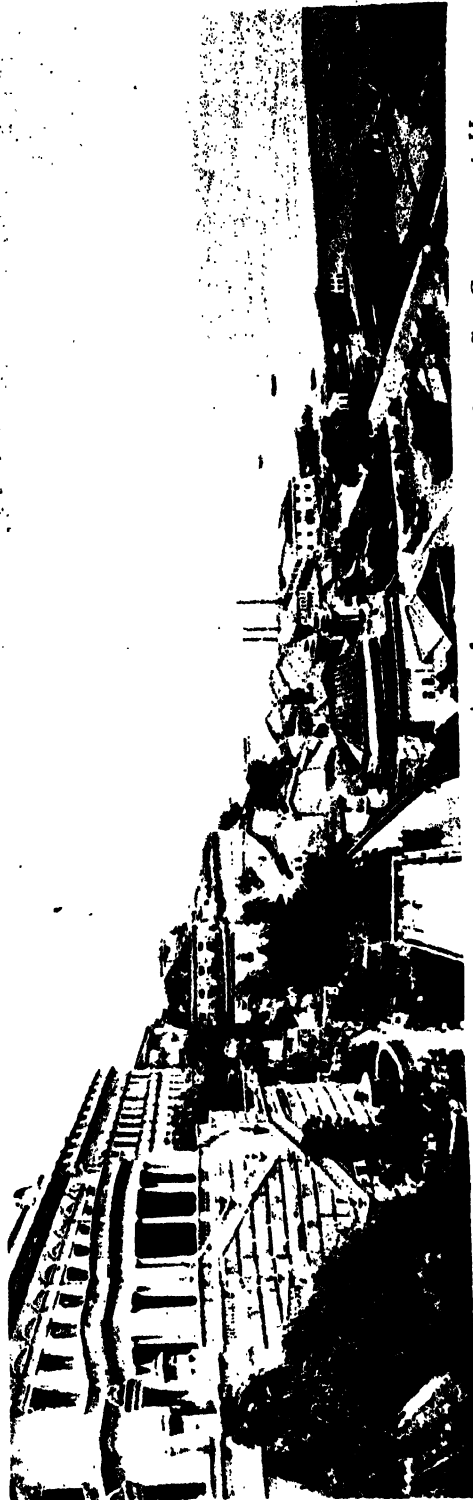


R. M. S. P.

BRAZIL. Palm-trees leading from the vivid bank of the Santos river to subtropical uplands give a wondrous charm to Bertioga



Bahia is the oldest town of Brazil. It is built in two sections, the lower, commercial city being linked by escalators with the upper, residential city, where many church towers and steeples break the skyline R. M. S. P.



BRAZIL. Notable among the fine buildings of the upper city is the Palácio da Acclamação, Government House, whence is seen an unforgettable panorama of the harbour and glorious Bay of All Saints R. M. S. P.



R. M. S. P.

BRAZIL. Here where it meets the sea is a first glimpse of the scenery that makes the Santos one of the loveliest rivers in the world. On the spit of land is Bertioga, an old Portuguese settlement



B. 1211. Hills mantled to the water's edge with dense tropical growth surround the lovely bay in which Santos, chief seaport of São Paulo, is built.

Magnificent docks and quays accommodate the largest liners, and the town is being developed on thoroughly spacious and hygienic lines.



R. M. S. P.

BRAZIL. On what was once a sandy plain in the tableland of the *Costas Junqueiras* in São Paulo, the thriving spa of *Poços de Caldas* has arisen since the discovery in 1876 of thermo-sulphurous springs

BRAZIL

Its Virgin Forests & Vast River System

by F. A. Kirkpatrick

Author of "South America and the War," etc.

THE word Brazil at once evokes in the mind a picture of the stupendous river Amazon and of the dense equatorial forest traversed by its waters, the forest described by Bates, Wallace and other travellers. That is the traditional picture of primitive Brazil and it is a true one. But this immense republic, larger than the United States without Alaska, contains much more, notably the great tableland of the southern tropics, besides a diversity of features corresponding to the vast size of the country. For Brazil includes about 3,300,000 square miles, nearly twenty-seven times the area of the British Isles. Its territory comprises fully half of South America.

Its borders touch every other South American country except Chile and Ecuador. Its greatest length from north to south is 2,630 miles; from east to west it is even greater. The outline is very irregular. But a circle drawn with its centre somewhat north of the city of Goyaz, and with a diameter of 2,600 miles, would touch or approach the borders at five points—at Cape São Roque in the east, on the river Javary in the west, on the frontiers of Venezuela and French Guiana in the north and on the Lagoa Merim in the south, on the border of Uruguay.

Land of Artificial Frontiers

It has been said that in a purely geographical sense Brazil is somewhat formless and lacks completeness. In the south the country does not extend down to what might seem to be its natural or scientific limit, the River Plate estuary; and in the west its boundaries towards Peru and Colombia are in great part artificial,

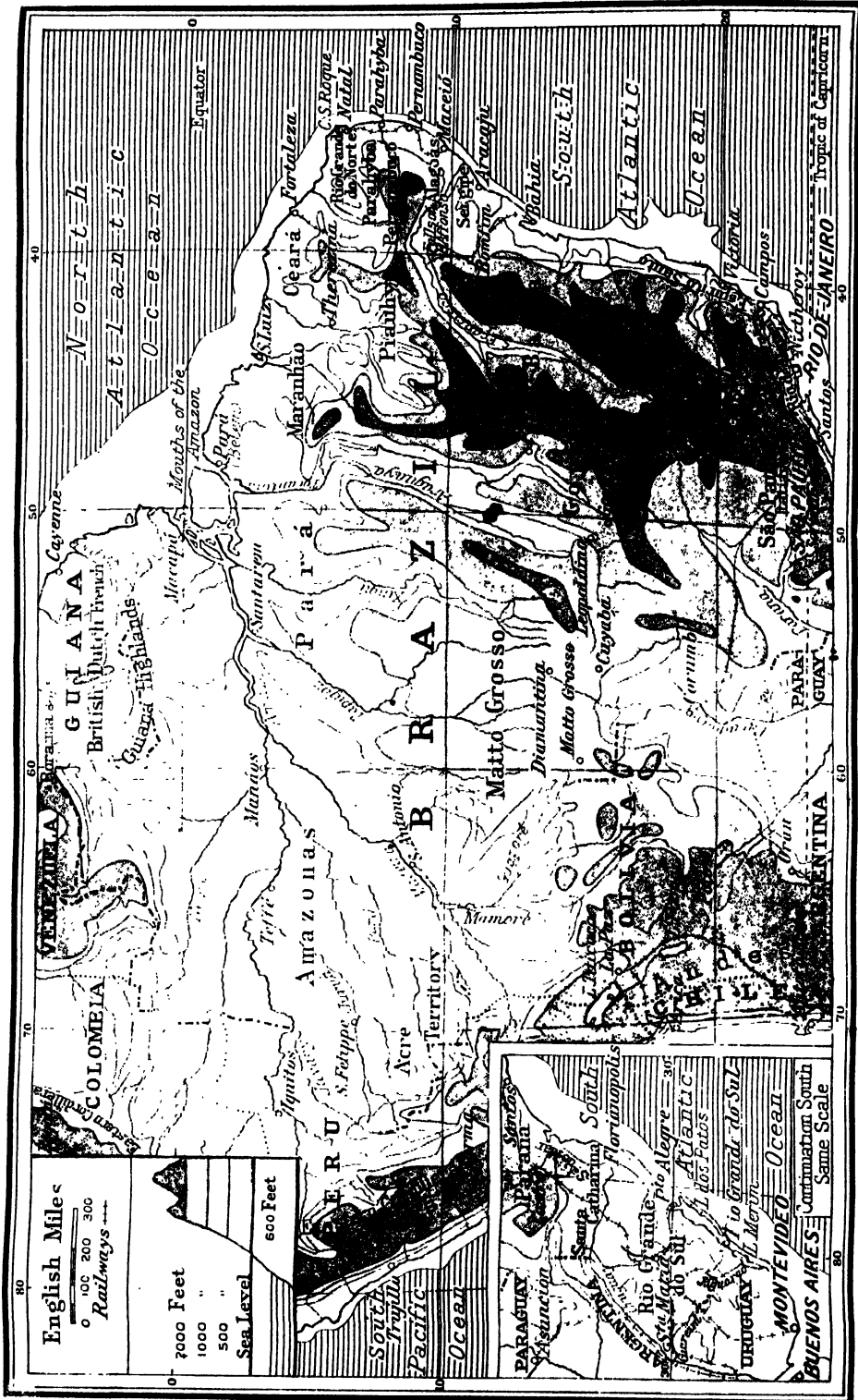
cutting across the courses of the Amazonian affluents for many leagues. In this direction nature seems rather to indicate the Eastern Cordillera as the physical limit, a limit which would add a vast interior region to Brazil.

Portuguese and Spanish Rivalry

This apparent incompleteness or want of symmetry is due to a combination of historical and geographical causes: first, to the long territorial rivalry between Spaniards and Portuguese since the sixteenth century; secondly, to the directions of the two great rivers. The Brazilian frontiers represent the limits to which the Portuguese were able to push their claims, penetrating inland from various points on the Atlantic. In the north the Amazon provided a natural path westward, offering much greater facilities to the Portuguese navigating from the coast than to the Spaniards descending eastwards from the Andes. Thus Brazil reached its greatest width in the Amazonian region.

In the south conditions were reversed. Here the Spaniards, penetrating into the continent by the estuary of the River Plate, found a natural path northward up the courses of the rivers which form that estuary. Accordingly in this region the Portuguese established their claim only to the north-eastern part of the River Plate basin.

Brazil represents the whole of Portuguese South America, and, roughly, corresponds in extent and also in the character and diversity of its origin to the whole of Spanish South America, now split up into nine separate Spanish-American republics. Brazil is not held together by any natural economic unity; nor was the settlement by the



COASTLINE, CONTOURS AND VAST AMAZON SYSTEM OF BRAZIL THAT COMPRISES HALF SOUTH AMERICA



Realistic Travels

LEISURELY TRANSPORT METHODS IN A LEADING CITY OF BRAZIL

Bahia, or São Salvador da Bahia, lies on the Bay of All Saints, about 740 miles north of Rio de Janeiro. Formerly the capital of Brazil, it was the scene of many conflicts of the early colonists. At present it is the capital of the state of the same name, which has great mineral and forest resources. The population of the city is over 200,000. Above is the street called Cam. J. Pedro Loures

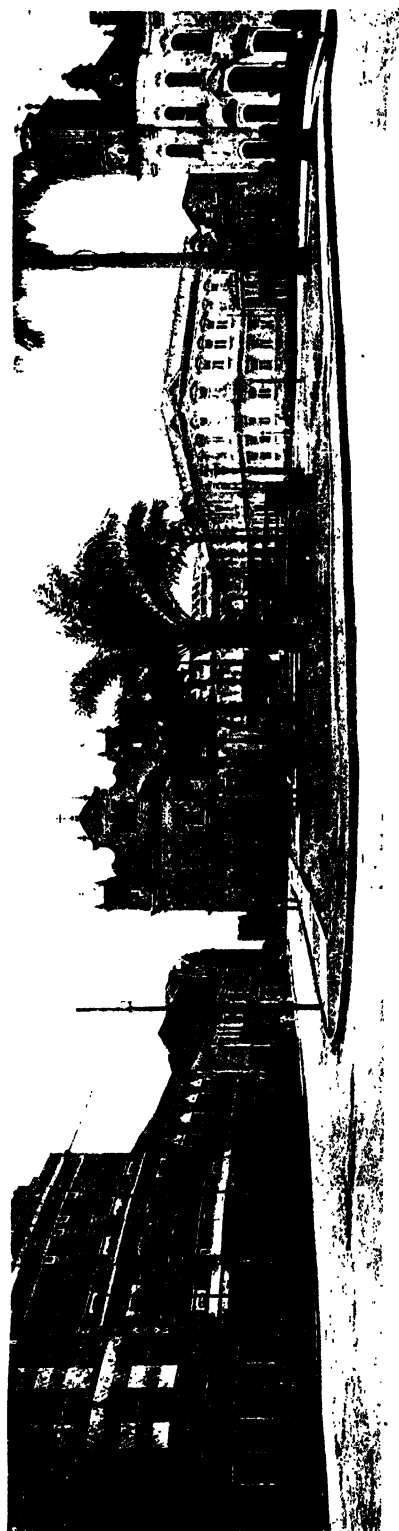
Portuguese a single concerted movement. Every one of the principal Atlantic ports represents a more or less detached economic system.

How can one account for the preservation of unity in Portuguese South America, a region so vast, so diversified, so wanting in compactness? In the first place, Brazilian territory is fairly continuous. The states of the republic—which once were provinces of the monarchy—notwithstanding their extent and diversity, are not separated by any clearly marked natural boundaries. And, more particularly, the settlements on the Atlantic coast, whence all colonisation started, were not divided from one another by deserts or other natural obstacles.

It was the overthrow of the Spanish monarchy by Napoleon which led to the disruption of Spanish America; the connecting link of the crown being

gone, every Spanish-American capital became a focus of separate activity, and later claimed to be the centre of an independent republic. Portugal fared differently. The Portuguese monarchy did not fall before Napoleon, but actually migrated to Brazil and made Rio the capital of the Portuguese Empire (1808-21). Notwithstanding an early attempt at separation in the north, this monarchy ruled Brazil till 1889, when the second emperor was quietly dethroned and the country started on its career as a Federal Republic. Thus unity was preserved by the comparative absence of violent shocks and by a certain continuity of history from colonial times.

The Atlantic washes the shores of Brazil through thirty-seven degrees of latitude, along a coastline very little indented yet measuring about 4,000 miles owing to the great eastward



PUBLIC BUILDINGS AND PLEASURE GROUNDS SET HIGH ON THE CLIFF ABOVE ALL SAINTS' BAY

R. M. S. P.

The principal part of the town of Bahia is built high up on the top of the cliff in which the ridge terminates that forms the spine of the peninsula separating the bay from the Atlantic. Above is the Praça 15 de Novembro, with a part of the university on the right; the lower photograph illustrates a part of the public park, the Campo Grande. Among the principal buildings of the city are the cathedral, a large theatre, the palace of the provincial governor and the municipal residence. Tobacco, coffee, rum and hides are exported.

projection of the continent. The general direction of the seacoast is south-eastwards from the frontier of French Guiana to Cape São Roque and thence south and south-westward to the Uruguayan frontier. To trace the land frontiers of Brazil would require a volume. They measure about 7,000 miles, traversing in very irregular lines the interior of the continent from the south temperate zone to the northern tropics, and bordering upon at least ten countries, including the three Guianas.

Borders Natural and Unnatural

The frontiers are based upon the "status quo" of 1810, but have been fixed in detail much later by a long succession of treaties and arbitrations. These agreements have been, in great part, notably successful in tracing the frontiers along the natural lines of rivers and mountains. But there are long stretches where such natural dividing lines do not serve, especially in remote and little-known regions.

The frontiers towards Uruguay, Argentina and Paraguay mainly follow streams and rivers, comparatively short links being provided by conventional lines. Uruguay is separated from Rio Grande do Sul by the rivers Jaguarão and Cuareim and by a ridge, or "hog's back," running almost from river to river. The Argentine frontier follows mainly the rivers Uruguay and Paraná, and, in the interval, tributaries of these streams. The border between Paraguay and Matto Grosso is marked first by a mountain-range curving north-eastwards, then by the river Apa, which flows into the Paraguay, and finally by the Paraguay itself.

Impression of Vast Simplicity

The borders towards Bolivia and Colombia are mostly conventional lines drawn from river to river across the general trend of the Amazonian affluents. Yet even here the natural boundaries exceed in length these artificial straight lines. The rivers Paraguay and Guaporé flow along a great part of the

Bolivian frontier. The Territory of Acre, ceded by Bolivia to Brazil in 1904, is partly separated from Bolivia and Peru on the south and west by river courses. The river Javary, a southern tributary of the Amazon, marks a long stretch of the Peruvian frontier. Much of the frontier towards Colombia is conventional, but in parts it follows streams. The irregularity of the whole northern frontier towards Venezuela, British Guiana and Dutch Guiana clearly indicates a natural boundary marked by mountain ranges. Finally, the river Oyapoc separates Brazil from French Guiana.

Notwithstanding endless diversities in detail, the surface of the country is divided, with a certain vast simplicity, between the Amazonian lowlands in the north and west and the great Brazilian plateau in the east, the centre and the south. Both these regions are really continental features, dominant parts of South America, but at the same time particularly Brazilian. They demand treatment in order.

River Two Hundred Miles Wide

The main stream of the Amazon flows for 2,300 miles of its course through Brazilian territory, moving eastwards through the central region of equatorial heat. It rather resembles a moving inland sea, the "Rio-mar," which in the wet season overflows a broad tract, 200 miles wide in some parts. The Amazonian forest is intersected by innumerable streams, creeks, lagoons, swamps and branches of the great river and its affluents, side channels through which part of the waters break and wander. The river rises and falls nearly 50 feet between the wet season and the dry and many of the tributaries have an almost equal variation of level. The Madeira, the greatest of these affluents, descends from the Bolivian frontier through 200 miles of cataracts and rapids now circumvented by a lateral railway. The Guaporé, one of the three streams which unite to form the

Madeira, is itself a great river which skirts the Brazilian frontier for nearly 1,000 miles. Shorter but not less copious than the Madeira is the Rio Negro, the chief northern affluent, which descends from the Venezuelan highlands, draining an extensive basin in its broken and rapid course. The ten chief tributaries all surpass the measure of European rivers, and about 200 smaller ones contribute their waters.

The Amazonian valley extends from the highlands of Guiana to the northern spurs of the great Brazilian plateau and contains the lower courses of the affluents descending from these heights. In the far west the valley widens out and includes almost the entire courses of the navigable tributaries Javary, Jurua and Purús. This immense low-lying land is filled with dense and dark forest—the greatest virgin forest in the world, fed partly by the melting

snows of the Andes and partly by the torrential rains due to the moisture wafted across the continent from the Atlantic by the trade winds.

These winds shed their moisture on the soaking and luxuriant forests, which are an example of the opulent and varied vegetation of the tropics and of its teeming animal life. The tree-trunks, which are seldom very lofty, are bound together by an inextricable and intertwined mass of creepers and lianas, all struggling upwards towards the light. For the forest is almost sunless, from the thick matted canopy of boughs and evergreen foliage. The varieties of trees, shrubs, creepers and other plants are endless, with an abundance of flowering shrubs and of gorgeous orchids clinging to the trees. Within Brazil, the forest stretches 2,300 miles from east to west. In the west it



Realistic Travels

CHURCH OF SAO PEDRO, ONE OF BAHIA'S MANY ECCLESIASTICAL BUILDINGS

The general architecture of Bahia is not impressive, the streets being lined with the florid stucco-fronted buildings so common in South American cities. An interesting feature of the town is its numerous churches, which one may attribute to the fact that it was once the metropolis of the Brazilian Church; chief is the handsome marble cathedral. Above is the Church of São Pedro



E. N. A.

ARCHITECTURAL CONTRASTS IN BAHIA'S PRINCIPAL BUSINESS STREET

Much of the former political and commercial importance of Bahia has been lost through the irresistible progress of the southern states of Brazil. It still remains, however, one of the leading commercial cities of the country, as is testified by the handsome offices in its main business thoroughfare. Here the florid newer buildings on the right make a strong contrast with the simpler lines on the left.

measures nearly 1,000 miles, north to south. Eastwards, towards the Atlantic, it narrows to 300 miles.

The forest is trackless and impenetrable except by the river paths. Its recesses are secret except where the canoe of the rubber gatherer mounts the shifting and steamy channels overshadowed by dense foliage. The wide tracts of forest between the rivers are unknown unless to scanty tribes of savages lurking in the thickets. But the navigable rivers invite travel, settlement and trade. Indeed, for purposes of navigation the Amazon may be regarded as a branch of the Atlantic. Large ocean steamers ascend more than 1,000 miles from the sea to Manaus, which is one of the great Brazilian ports. Smaller ocean steamers ascend into Peru beyond the limits of Brazil. The larger affluents are navigable to the foot of

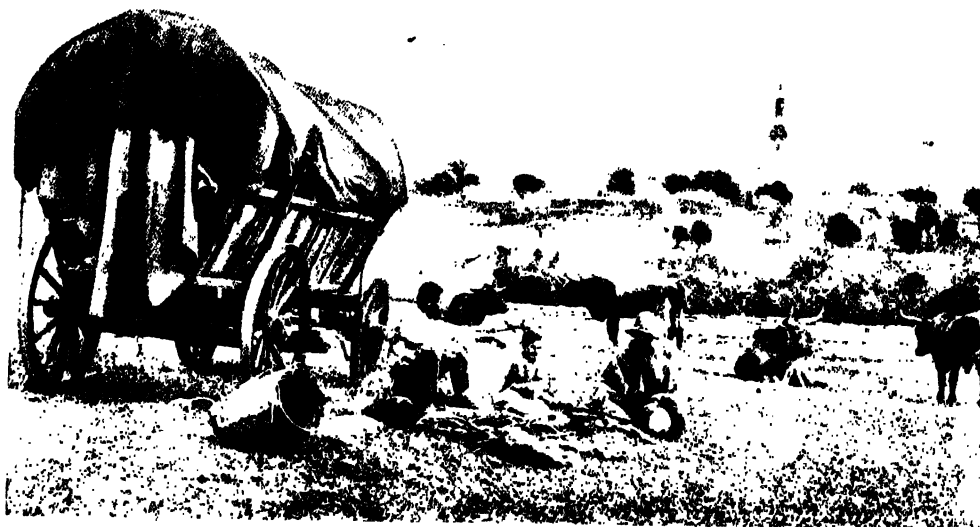
the cascades by which they descend from the heights. About 27,000 miles of navigation are reckoned within the Amazonian valley, without counting the navigation of 100 lesser affluents accessible to smaller craft.

On any elevation along the shores of the main stream and of its affluents in their lower courses towns and villages are perched. Their prosperity and that of the Atlantic port of Pará, or Belém, has followed the variations of the rubber industry, in which the humbler workers have been largely half-castes migrating from Ceará, driven thence by the long droughts which from time to time afflict that state. These "seringueiros" (rubber gatherers) grope their way in canoes along unexplored channels winding through primeval woods, and pitch their solitary camps, where they risk the discomforts, dangers and diseases of the



POWER OF THE RAPIDS HARNESSSED TO MAKE ELECTRICITY—

For cheapness, efficiency and simplicity the use of water power especially commends itself, and in particular for electrical generating stations that have to supply great energy. The water is led from a reservoir above the fall, down the pipe seen to the right, to a power-house below, and in its descent revolves turbine wheels which in their turn supply the energy for driving the electrical generation plant.



NOMAD CATTLEMEN OF THE PASTURE LANDS IN THE CASTRO DISTRICT

Castro, a small town in the state of Paraná some 85 miles north-west of Curitiba, lies in the fertile southern portion of the great Brazilian plateau. This region is admirably suited to pastoral pursuits. The grass grows all the year round, enriched by the upper waters of the Paraná, and here the immigrant from southern Europe finds a temperate climate resembling his own with regular change of season.



—BY PAULO AFFONSO FALLS ON THE SAO FRANCISCO RIVER

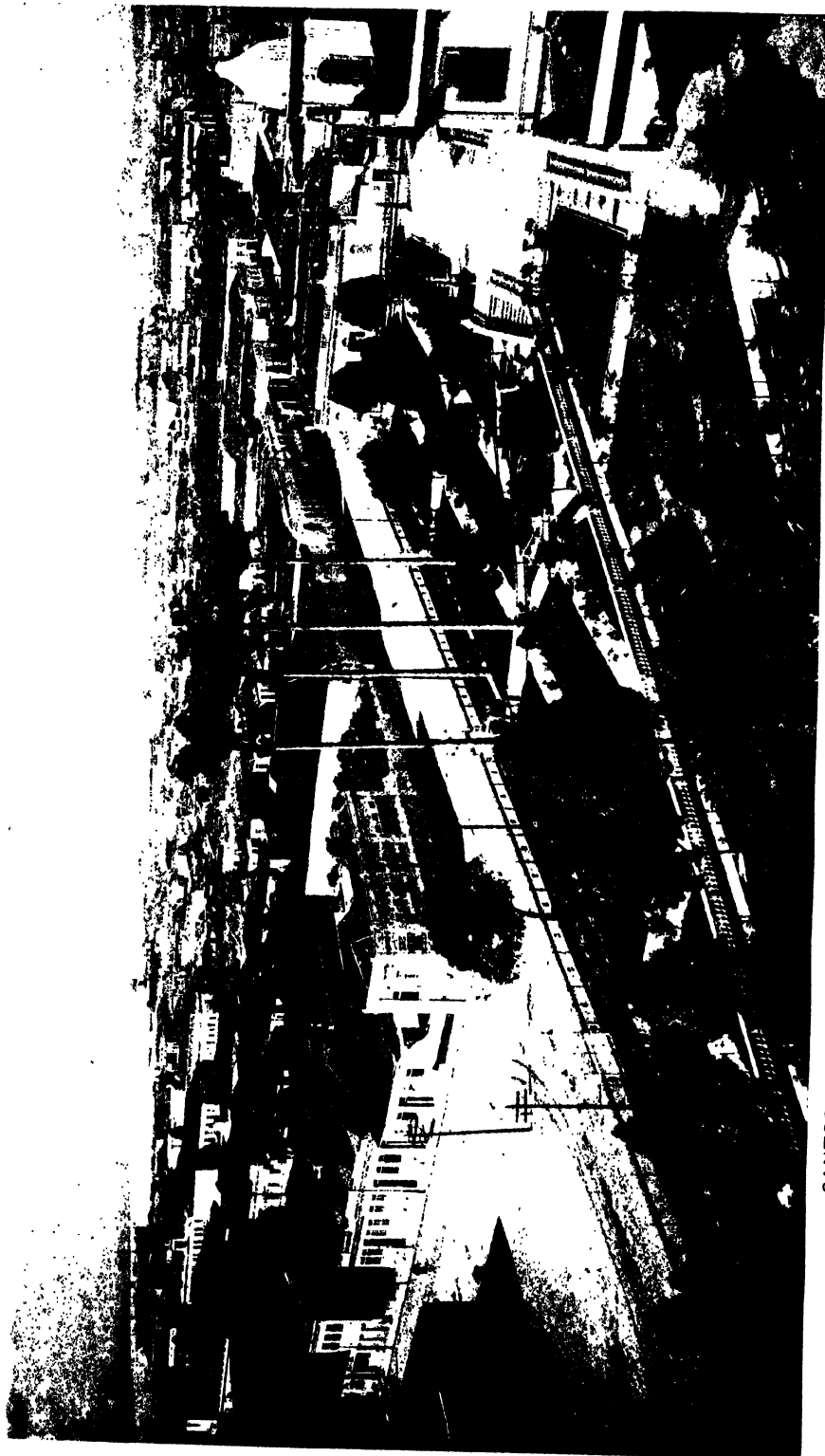
These falls occur at the junction of the three states of Bahia, Sergipe and Alagoas. The photograph was taken towards the beginning of the dry season, during the course of which vegetation appears upon the rocks in mid stream. When the wet season comes round the rocks are entirely covered with the increased volume of water and all the greenery is then swept away



W. S. BAR

AT CASTRO WHERE THE RAILWAY FROM SAO PAULO SPANS THE TIBAGY

Brazil's fine system of railways stretches from far north of Rio de Janeiro to connect eventually with the systems of Uruguay and Argentina. This bridge carries the São Paulo do Rio Grande Railway over the river Tibagy, an affluent of the Paraná river. The town of Castro, in Paraná province, is situated on the main line that runs from Sorocaba to Santa Maria



SANTOS, A CENTRE OF THE BRAZILIAN COFFEE TRADE. FROM THE HEIGHTS

E. N. A.

Covering an alluvial plain on the inner side of the island of São Vicente, Santos lies on the inland tidal channel known as the Santos river, which is wide and deep, forming a bay of sufficient extent to accommodate ocean-going steamers. The water front, formerly a stretch of mud flats and a source of fever epidemics, is now built up by quays. Ranking second to Rio de Janeiro as a port, the city undoubtedly owes its importance to the coffee industry of São Paulo State. It lies 50 miles south-east of the city of São Paulo, for which it serves as an export town.



L. N. A.

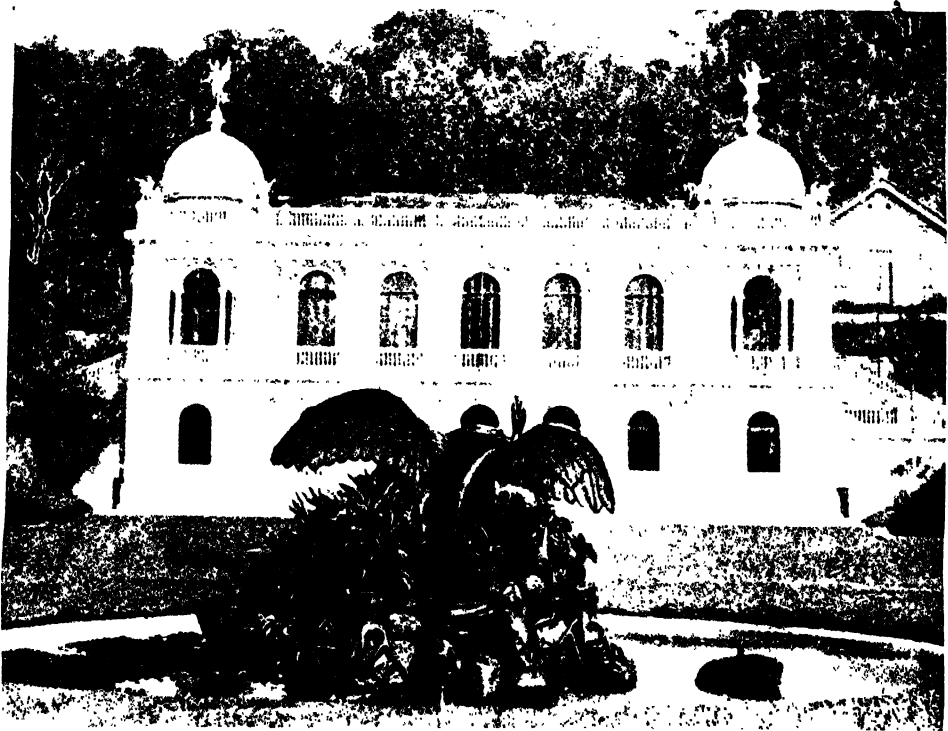
SHADY PAVEMENT OF THE PRACA MONTE ALEGRE IN THE PORT OF SANTOS ON THE SOUTH ATLANTIC SEABOARD

Santos is built upon a strait between two islands, the smaller and landward of the two bearing the town and the other forming a natural breakwater against the South Atlantic storms. A station adjoins the main quay, which is nearly three miles long, and electric trams run to the Praça Monte Alegre, which contains the scenic feature of Santos is this hill, which gives its name to the square and whose green slopes have been allowed to be spoilt by the principal station. The scenic feature of Santos is this hill, which gives its name to the square and whose green slopes have been allowed to be spoilt by advertisements for biscuits and mineral waters. The Praça is a radiating point of the town's tramway system

tropical wilds, while they collect the precious latex and prepare it by smoking over wood fires. Besides the varying rubber industry, the forest contains abundant wealth in dye-woods, timber, fibres, Brazil nuts, fruits, remedial and nutritive plants. But man has scarcely begun to dispute the dominion of the forest with its primitive denizens of the animal world. For this prolific wilderness teems with life. The largest mammals are the tapir and the jaguar. But huge reptiles, saurians and fishes frequent the woods and waters; snakes of many kinds and sizes abound; monkeys of fifty kinds have their homes in the branches. Much greater is the variety of beautiful birds, from the magnificent cranes, herons and ibises down to the tiny, fairy-like humming birds. Brilliant butterflies abound, as well as the multitudinous pest of insects. This immense primeval forest reserves

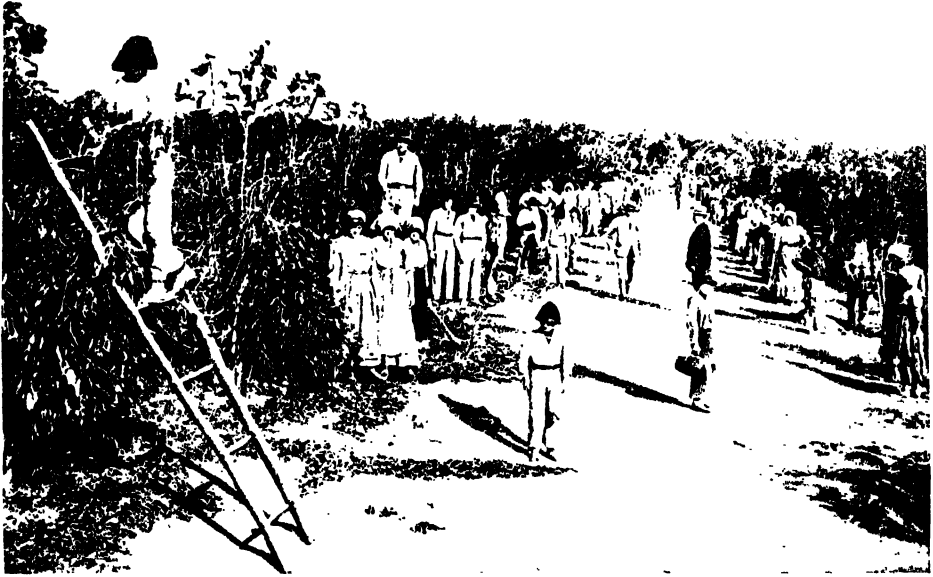
the promise of boundless future development- the floods to be turned to account for power and for irrigation, the alluvial soil of forest clearings to be harvested, sending its produce abroad and also supporting on the spot millions of inhabitants, probably of mixed and dusky races.

A complete contrast, a totally different world, is found in the more temperate uplands, the far-stretching elevated plains of the great plateau which covers at least half of Brazil, extending south-east and south of the Amazonian valley and separating its waters from those of the River Plate. From the southern brink of the plateau the river Paraná and its eastern affluents precipitate themselves in thunderous waterfalls to the plains of the south, which partly belong to Brazil. From its gentler declivities, sloping northwards, the Amazonian affluents and also the Araguaia-Tocantins pierce



PETROPOLIS RESIDENCE OF THE PRESIDENTS OF BRAZIL

For those who delight in mountain scenery nothing could excel the beauty of Petropolis, the Versailles of Rio de Janeiro. Originally an agricultural colony with a small German population, the city is now a resort of wealth and fashion; from December to May the season is at its height and there is a scene of continuous gaiety. Above is the summer residence of the presidents



ONE OF BRAZIL'S PRIMARY INDUSTRIES: COFFEE PICKING ON A FAZENDA

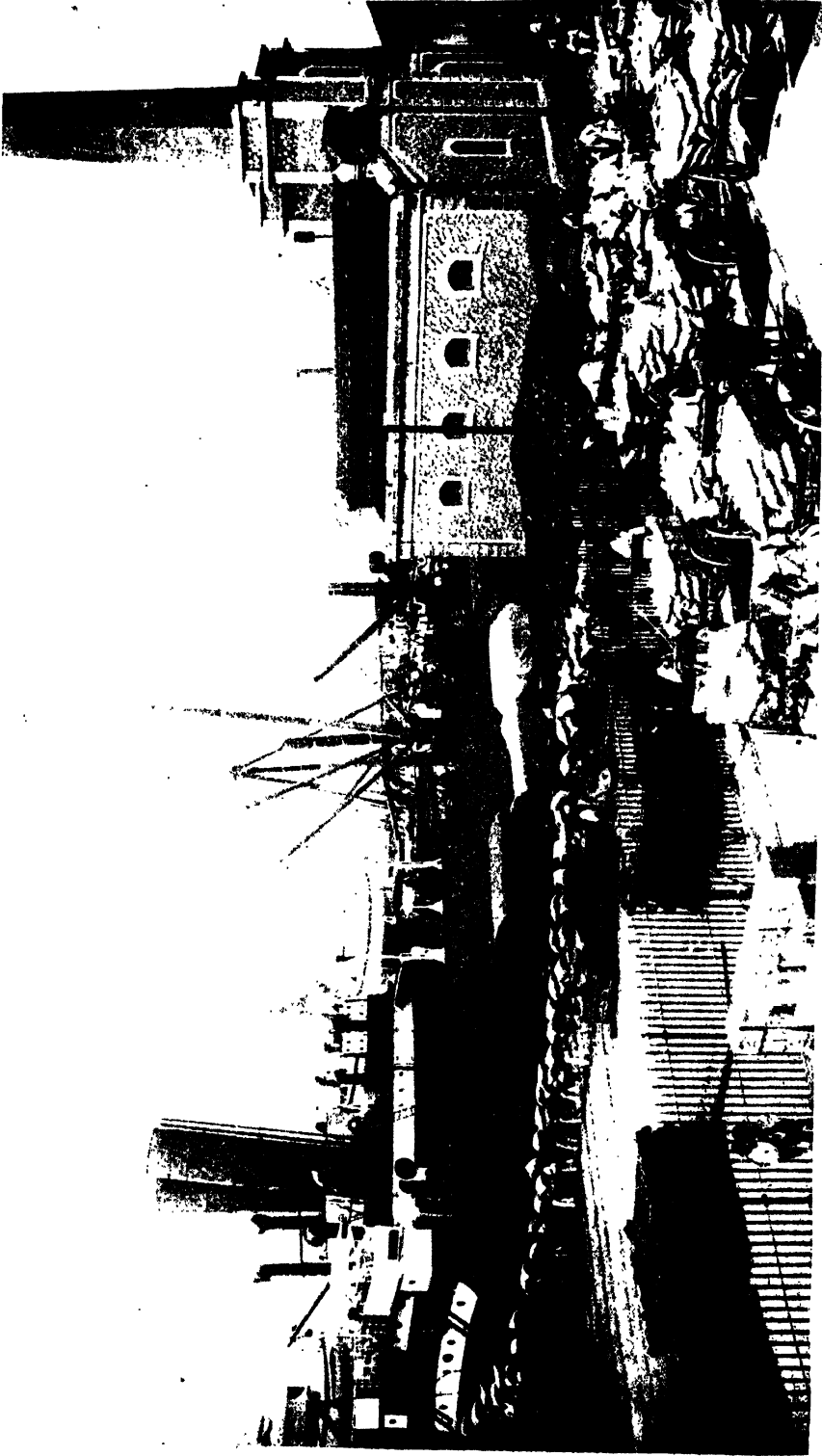
Brazil is one of the world's principal coffee growing countries, and the majority of the fazendas, or plantations, are found in the states of São Paulo, Rio de Janeiro and Minas Geraes. The coffee plant in Brazil bears fruit in the third year after planting, which takes place between November and February. It is estimated that 25,000 trees should yield some 120,000 lb. of coffee.

their way in a series of cataracts. The average elevation of the plateau is at least 2,000 feet; it is divided into separate stretches of upland by river valleys, either deep gorges bordered by precipitous rocks or glens flanked by thickly-wooded slopes. The "chapadas" or elevated plains, often called "campos," which stretch from river to river are, in fact, so many separate upland regions differing in character from one another, in parts desert and dry, but in parts rich in alternating stretches of forest and of herbage inviting pasture and everywhere admirably adapted for the settlement of white men.

Upon the tropical parts of these elevated plains the alternating seasons are not winter and summer but the wet and dry seasons, the wet season corresponding to the southern summer. Thus, in parts the pasture suffers an annual drought. But towards the south

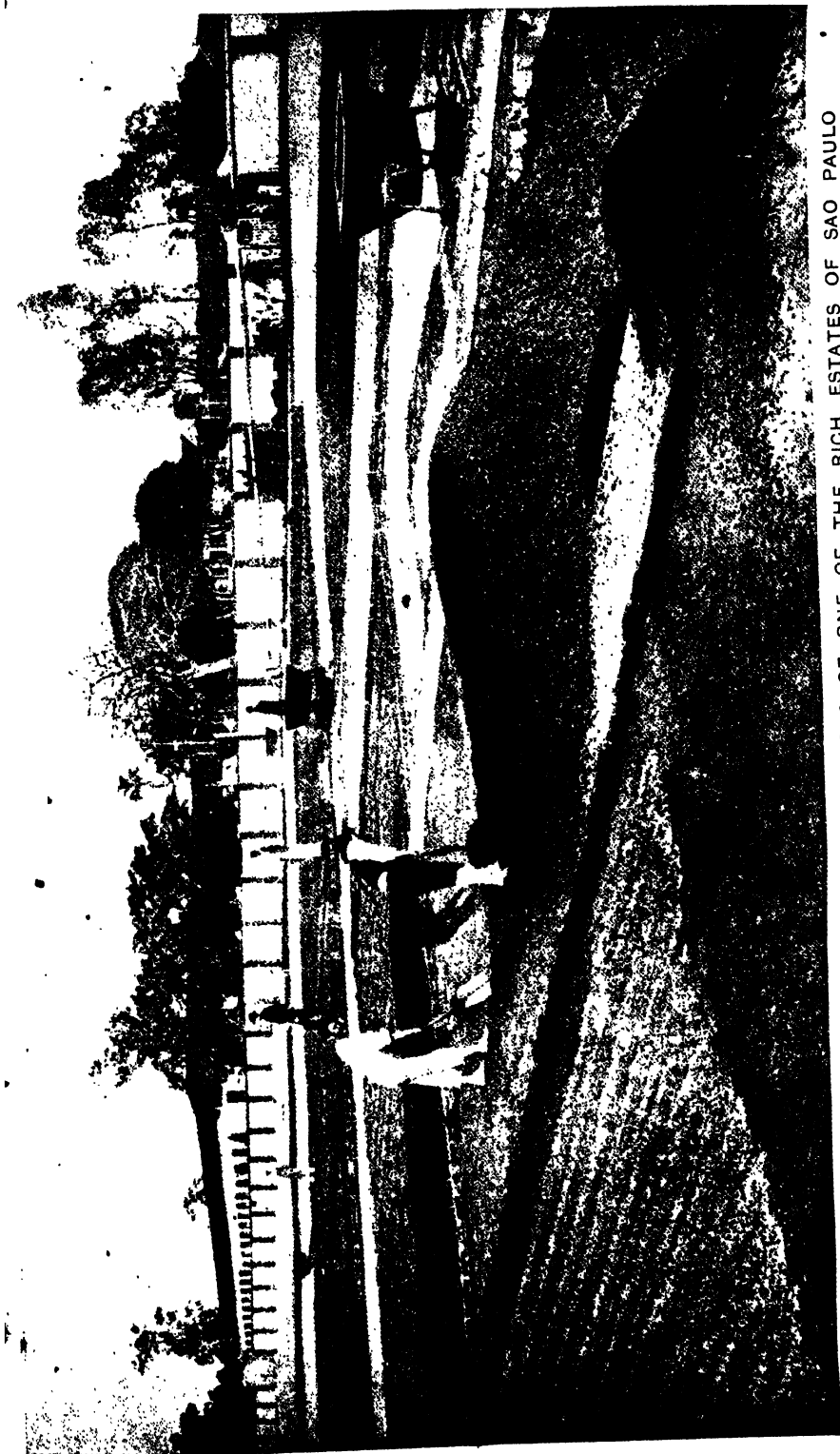
more equable conditions prevail, the grass growing throughout the year and in places being annually refreshed by overflowing streams. Large stretches of these campos invite future tillage. The plateau generally consists of old rocks, in former ages more lofty than they are to-day, and the deep layer of rich, red earth which covers much of the land is due to the disintegration of these rocks by the weather.

From the plateau rise many ridges, some of them mountainous in character, following generally the directions of the rivers. Between the coast and the line traced by the upper Paraná and the river São Francisco these ridges trend north-east. West of the São Francisco a considerable range runs north, and lesser ridges run north beyond the Tocantins and the Araguaya. Finally, in the far interior, a distinct mountain chain breaks away north-westward through Matto Grosso, parallel to the



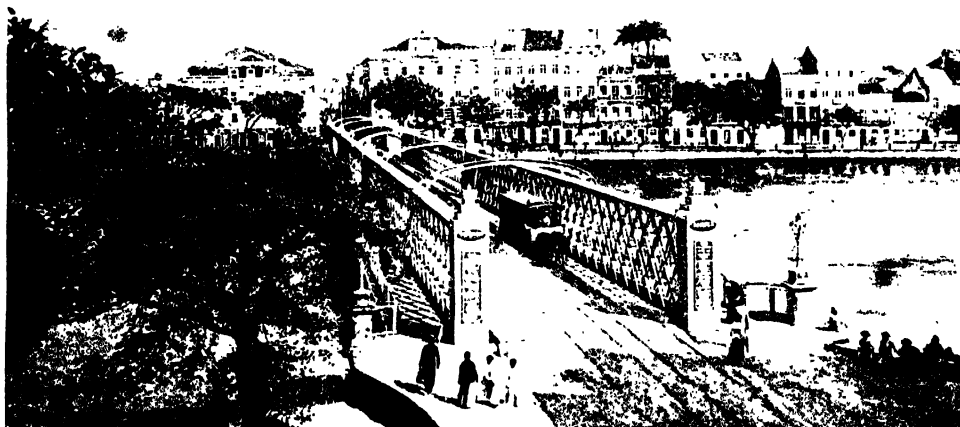
SHIPPING THE PRODUCE OF THE COFFEE PLANTATIONS IN SAO PAULO STATE FROM THE QUAY OF SANTOS

Santos, the seaport for the city of São Paulo, is on the Atlantic coast, 200 miles south-west of Rio de Janeiro, and is said to be the largest coffee shipping port in the world. It owes its importance mainly to the exigencies of the planters of São Paulo State, where the development of coffee production in the early part of the century has considerably enhanced the value of the port, not only for the export of coffee but for the import of immigrant labour. Santos has many railway connexions, and among other deliveries for exportation are hides, frozen meat, cacao, tobacco and bananas.



SPREADING COFFEE BEANS ON THE DRYING FLOORS OF ONE OF THE RICH ESTATES OF SAO PAULO

Four-fifths of the world's coffee are produced in Brazil, and the maritime state of São Paulo, the richest and most populous in the republic, is the great coffee centre and grows more coffee than any other state in the country. The red earth districts in the central and northern parts are especially favourable for coffee production, and some of the richest estates are found in the basins of the Tietê and Araricá rivers, both tributaries of the Paraná. Here the soil is dark red in colour and almost stoneless, the most prolific plantations being set on the high divides between the drainage valleys



ARM OF TRANQUIL WATER ABOVE THE HARBOUR OF PERNAMBUCO

R. M. S. P.

Pernambuco's most important feature is the reef running parallel to the shore and leaving an arm of sea between. For ships of moderate draught no more excellent harbour could be found, and here a deep and safe anchorage capable of admitting the largest liners could well be constructed. This view is taken from Recife, the commercial quarter of Pernambuco, and looks towards São Antonio.



VISITOR'S FIRST VIEW OF THE CITY OF PERNAMBUCO

Realistic Travels

Because of its division into many parts by waterways, Pernambuco has been called the Venice of America. It has three main divisions: the old quarter of Recife, now the commercial centre; São Antonio, on the island formed by the Biberibe and Capiberibe rivers; Boa Vista on the mainland, the residential quarter. The port is 380 miles north-east of Bahia and is an important terminus.

river Guaporé, marking the western limit of the plateau where it stretches to the basin of the Madeira.

The eastern cliff of the plateau, clothed with thick forest, borders the Atlantic in a vast semicircle, 2,000 miles long, from the north coast almost to the southern boundary. In parts, especially in the south, where it rises to 3,000 feet and is known as the Serra do Mar, the cliff descends precipitously near the sea; elsewhere it slopes more gradually to the tropical coastal strip which borders it everywhere. Farther inland, a truer mountain range, the Serra do Espinhaço trends north-east and throws up one peak, Itatiaya, of 8,900 feet, due west of Rio de Janeiro. Besides the Amazonian and River Plate affluents, numberless rivers rise in the plateau and flow either north or east into the Atlantic. Most of these are short streams rising in the seaward parts and traversing the coastal strip. Others are great rivers, notably the São Francisco, which offers long navigable stretches above the cascades of its lower course, and the Parahyba do Norte.

• Diverse Products of the Tableland

The tableland, comprising one-fourth of South America, is naturally much diversified and contains within itself several distinct regions. The equatorial north, with its tropical growth, differs much from the more temperate south with its pinewoods. Mention has been made of Ceará, where, if the rains (January to April) fail, the underlying rock, tilted seawards and scorched by equatorial suns, holds no moisture; then the crops wither, the cattle starve and the people, unless fed from without, must depart, as many have departed induced by immigration agents, to the Amazonian forests. Totally distinct is the inland state of Minas Geraes, a broken mountain region rich in gold, in diamonds and in various minerals, the region which tempted early settlers to push far inland in search of gold. To-day the market gardens and farms of southern Minas largely supply the

capital. The coffee-growing tableland of São Paulo is treated in a separate chapter. The immense state of Matto Grosso ("Big Forest"), in great part uninhabited and unexplored, slopes down to the wooded lowlands of the river Paraguay. From the wide pastures of Matto Grosso the cattle are driven across half the continent to the eastern markets. In the forests of the same state, and still more in those of the state of Paraná, the shrub abounds whose leaf, dried and infused, provides maté, the favourite beverage of all the River Plate region.

States that Attract Immigrants

The three southern states may be described as the most European part of Brazil, a favoured region (about the size of Spain) extending into the temperate zone and offering to the settler a fertile soil, an attractive landscape and a climate varying with the altitude but generally resembling that of southern Europe. Here, beyond the tropics, summer and winter regularly alternate, rain being more abundant in the summer.

Hither came, invited and subsidised by the Brazilian Government, successive colonies of German immigrants, from 1824 to 1860, who did much for the development of the country, especially about Porto Alegre where a fan-shaped system of navigable streams facilitated settlement. These colonists multiplied through three generations, until in 1914 it was said that Southern Brazil contained 400,000 persons speaking the German tongue. After 1870 came Italians in yet greater numbers, as well as Poles, Basques and Gallegos. From these "colonies" have sprung many flourishing towns and villages, besides pastoral and agricultural estates.

Stock-breeding Southern Plains

Far to the south the plateau, here of a softer sandstone structure, slopes to the undulating cattle-rearing plains of Rio Grande do Sul, where the gaucho tends great herds and where, on the

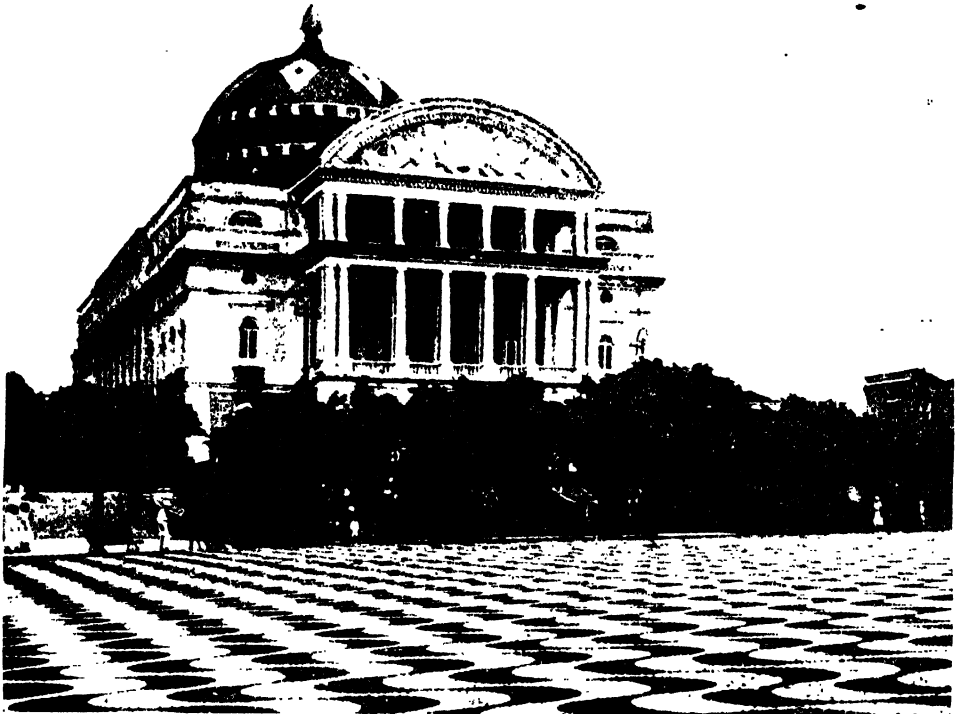
Uruguayan frontier, a pastoral population of mixed Portuguese and Spanish speech preserves a good deal of the old "criollo" life of the plains. The "saladeros" or meat curing establishments of these prairies supply dried beef to the tropical parts of Brazil. The tanning and working of leather are growing industries among the more settled part of the southern population.

The coastal strip, 2,000 miles long, varies much in character and value. It contains swampy tracts and sandy tracts. Other parts, watered by rivers, are productive and often planted with coco-palms in the north.

The southern temperate region has been in great part transformed by the introduction of European animals and crops, notably the vine and wheat. In the coffee-growing regions of São Paulo and the adjoining states, the face of the country has been changed by

cultivation; so also where manioc, maize, rice and beans are grown for home consumption, and where sugar, tobacco and cotton are cultivated, both for export and for the home market. But in general a description of primitive Brazil merely requires some modification in view of human effort. The European, aided by negro labour, has introduced various domestic animals and crops, but without displacing very much of what was there before he came. Even the great cities of the Atlantic seaboard are hemmed in by the forest. In the wooded parts of the plateau patches are cleared and fertilised by fire for a few seasons' crops.

The obstacles offered to human endeavour by this over-abundant growth are compensated by luxuriant productive demanding constant toil. In past days it was slave labour which, on the cane plantations of



C. Uehler Knox

OPERA HOUSE OF MANAOS, A HANDSOME CITY OF THE INTERIOR

On the Rio Negro, ten miles from its confluence with the Amazon and over 1,000 miles from the Atlantic, is Manaus, a fine city whose elegant buildings stand in clear whites and reds against a background of brilliant emerald green. The city has a good harbour and is a regular calling-place for liners: rubber, cocoa, hides and dried fish are exported. Above is the façade of the Opera House



C. Center Knox

NATURAL ARCHWAY OF LEAFY MANGO TREES IN MANAOS

The handsome, well-built town of Manaus, a flourishing river port of Brazil, is notable for its finely foliaged parks. The streets likewise boast many varieties of trees; among them is the mango, a native of the East Indies, the dense glossy foliage of which is popular both for its shade and beauty. Unripe, the fruit is used for pickles and preserves; ripe, it makes an agreeable dessert.

Bahia, Pernambuco and Campos, raised the crops of sugar which formerly constituted the chief product of Brazil; slaves dug the gold and diamonds which played so picturesque a part in the colonial history of the country; and the coffee plantations in their early days, from about 1850, were worked by negro slaves. Since the diminution of slavery after 1871, and its extinction in 1888, conditions have changed. The coffee is cultivated by European immigrants with some recent arrivals from Japan. Sugar, tobacco and cocoa are mainly cultivated by free negro labourers, as also cotton, a crop of growing importance.

For although the main wealth of Brazil comes from the soil, her industrial manufactures are increasing. The cotton spinning industry supplies almost the entire demands of the home market, besides the increasing export of raw cotton. Leather manufacture is expanding. The meat freezing industry, created by the conditions of the Great War, still continues. The sugar refineries deserve mention, and also the

establishments which produce a coarse sugar or syrup for local consumption. But coffee constitutes far the greatest source of wealth. Four-fifths of the coffee supply of the world come from Brazil, and the state of São Paulo yields one-half of the world supply. The export of coffee far exceeds in value the united total of all other Brazilian exports - sugar, chilled meat, tobacco, leather, cocoa, cotton, maté, rubber, timber and other forestal products.

Many Brazilians predict a great metallurgical industry owing to the abundance and excellence of the iron ore deposits in Minas Geraes and other parts. So far the problem of fuel for smelting has not been solved. There are coal deposits in several parts of the south, but mostly soft coal, not yet found suitable for the furnace; otherwise the mineral wealth of Brazil is abundant and varied. The gold-mines of Minas have long been famous, and also the diamonds of that state and of Bahia. In addition, the mountains of Minas contain almost every useful metal. The production of manganese



R. R. Wallis

SANDSTONE EXCAVATIONS OF THE DIAMOND WORKINGS AT BOA VISTA IN THE DIAMANTINA DISTRICT

Diamonds were first discovered in Brazil about the year 1716, and as early as 1725 the famous field at Diamantina in the province of Minas Geraes was known to bear diamonds. Among the world-famous stones that Brazil has produced is one of 253 carats, which was sold to the Gackwar of Baroda for £80,000. There are many other diamonds of this kind or better, the jewels being washed out of the encasing gravel. The following is the name of the mine which produced the above-mentioned stone.

in Minas demands special mention, and also the production of monazite sand in Espirito Santo. Petroleum deposits in various places await future working.

Natural transport is in parts abundant, in parts non-existent. The country probably contains 60,000 miles of interior navigable channels (including the reaches separated off by cascades), besides 4,000 miles of coastline. A merchant going from Manáos to Cuyaba, a distance of about 800 miles by direct measurement, will actually travel nearly 6,000 miles by water, down the Amazon, along the coast and up the River Plate. This illustrates both the extent of water transport and the totally impassable and inaccessible nature of much of the country. Coasting trade is limited by law to Brazilian ships, and is chiefly in the hands of one company, the New Brazilian Lloyd, which also ships to foreign ports.

Ways by Water, Air and Rail

In addition to the important cities named below, official statistics reckon about eighty smaller seaports, roadsteads or estuary harbours, not including the riparian ports of the Amazonian system. Many foreign steamship lines ply to the chief ports, bringing manufactured goods in exchange for Brazilian foodstuffs and raw materials, bringing also a stream of immigrants from southern Europe. The cable service is excellent and aerial communication is receiving attention: indeed one of the earliest pioneers of aviation, was a Brazilian, Santos Dumont.

The railways (17,200 miles) do not form a united system, except in the south where lines have been linked together,

Rio into communication with Argentina and Uruguay. The other railways are mostly detached lines linking seaports with interior centres of production, an arrangement which indicates that Brazil contains several economic areas with separate outlets. The natural path between these ports is the sea. Roads, except near the great cities, are merely tracks which turn to

dust or mud with changing seasons. Railway construction is not easy across the heights and river valleys of the broken plateau.

Interior settlement is recent, except where special conditions drew early colonisers westward in Minas Geraes and São Paulo. Even Amazonian development is the work of recent decades.

Lure of the Long Atlantic Coast

The history of Brazil is the story of settlement on the Atlantic coast and on the adjacent or eastern portion of the tableland. Hence all the great towns except São Paulo and Manáos (75,000 inhabitants) are on the coast. Here, within the tropics, is a remarkable chain of flourishing cities, habitable by Europeans, cooled by the perennial trade winds and mostly adjacent to salubrious heights studded with the suburban villas of merchants.

The Brazilian cities are not rigidly planned on the chess-board pattern prevalent in Spanish America; hence a greater variety and individuality. Rio de Janeiro, the capital, is described in a separate chapter. Bahia (284,000), the former capital, notable for tobacco and sugar and for its working population of negroes, stands on a beautiful bay, bordered by a semicircle of wooded hills, up which the suburbs climb from the busy streets by the quayside.

Cities and their Populations

Pernambuco (239,000), the great sugar port, owes its existence to a natural harbour formed by an opening in the long reef (recife) which runs parallel to the coast for many leagues and here forms a natural breakwater. Pará or Belem (236,000), the rubber port lying on the flat alluvium of the Amazon and Tocantins, was in 1850 an unwholesome town of 15,000 inhabitants which was struggling to disentangle itself from the all-embracing forest. Nictheroy (86,000) on a beautiful site looking out upon Rio harbour is capital of the state of Rio de Janeiro—for the city of Rio forms a federal district separated from the

state. Santos, the port of São Paulo, is chiefly occupied with the export of coffee grown in the south.

Fortaleza (78,000), Macéio (74,000), San Luiz (53,000) and Parahyba (53,000) are outlets for the tropical produce of different districts. In the temperate country of Rio Grande do Sul, on the shore of a great lagoon, Lagoa dos Patos, the flourishing partly German town of Porto Alegre (180,000) with its breweries and leather factories, is a contrast to the tropical ports.

For Brazil is a land of contrasts. The twenty autonomous states which constitute the Federation comprise several distinct countries and populations. São Paulo differs from Amazonas in population, character, occupation and civic administration as much as Norway differs from Greece. The peculiarity of Brazil is not merely that the population is mixed, as in the adjoining tropical republics, but that different

parts of the country have different populations. A competent and sympathetic observer, M. Pierre Denis, writes thus: "One finds in Brazil not a uniform type of civilization, but surprisingly different modes of existence. This diversity is illustrated and increased by racial diversity. Here the Portuguese race has remained almost unadulterated; there, it is completely mixed with the indigenous race and almost absorbed by it; here again, it has been grafted upon the imported negro race. There are, in fact, several different populations, each possessing its own characteristics, its peculiar activity or idleness, its own amusements and folklore."

Complete fusion is hardly yet in sight, but there is a strong and general sentiment of Brazilian nationality, a sentiment favoured by emulation with the neighbouring lands and by conditions arising from the Great War.

BRAZIL: GEOGRAPHICAL SUMMARY

Natural Divisions. East, the Brazilian plateau and highlands, the western relic of the ancient continent of Gondwanaland (cf. the plateaux of southern Africa, the Deccan in India and Western Australia). West, the eastern edges of the Cordillera, the up-folded Andes. Centre and north, the lowlands, mainly of the Amazon, once a sea and now without a marked divide separating it from the Orinoco basin, and only a slight divide between it and the Plate basin.

Climate. Reliable climatic details are lacking for most of Brazil. Most of the Amazon lowlands have an annual temperature exceeding 80° F. and an annual rainfall exceeding 80 inches, with two rainy periods about March and September. Some rain falls usually each afternoon. South-west from Cape São Roque, extending into the middle valley of the São Francisco, is a climatic area with peculiarities for which no explanation has yet been found. It is the most consistently hot area in South America and has a scanty and unsteady rainfall. The plateau is a warm temperate region, with at least 40 inches of rain mostly in summer (cf. Florida); the coast backed by the mountains, Serra do Mar, etc., receives rainy on-shore winds (cf. Queensland and New South Wales).

Vegetation. Jungle forest, selvas, in the Amazon basin. Catanga, or thorn bush, in the north-east arid area. Campos, natural grass lands, on the southern plateau.

Products. Wild rubber, cacao, cinchona, Brazil nuts from the hot wet forests. Four-fifths of the world's coffee from the São Paulo area. Beef-cattle, of late much improved by crossing with cattle specially imported from India, from the campos (cf. tropical Australia). Gold, diamonds, manganese (one-third of the world's total), monazite, all of which are typical of Gondwanaland areas (cf. India for monazite, manganese, gold and diamonds, South Africa for diamonds and gold, and Western Australia for gold).

Communications. 4,000 miles of typically Atlantic coastline, with many harbours (cf. Rio Harbour, with Port Jackson, Sydney), facilitate oceanic and coastwise shipping. Untold miles of navigable waterways by the rivers, which are useful at all seasons. The beginnings of a railway system pushed inland from the coast (cf. Queensland and New South Wales).

Outlook. The Amazon valley challenges the Congo basin as a future source of valuable jungle forest products, both wild and cultivated. The inland campos challenge tropical Australia as a future source of beef for the world. Coffee, practically a world monopoly, dominates a third area. The future lies in the progress of three somewhat divergent regions in cooperation, and is not complicated by such an awkward problem as confronts the advocates of a White Australia.

BRITTANY

Rugged Grandeur of old Armorica

by J. A. Brendon

Author of "The Story of the Ancient World," etc.

FOR the student of folk-lore, the archaeologist and the historian Brittany has a strong appeal. It has an appeal equally strong for the painter and the photographer, and for the mere lover of the wild and picturesque. The coast scenery is grand. Prehistoric remains are numerous and well preserved. So stoutly, moreover, have the people maintained the individuality of their country against the levelling onslaughts of progress that, in the sequestered west, the past may still be seen as a living reality. And St. Malo, the gateway to this land of romance, its harbour protected by many islets, including Grand Bey where is the lonely grave of Châteaubriand, lies but twelve hours from London.

A great promontory butting boldly into the Atlantic, Brittany offers a striking contrast to its neighbouring territories. Eastward roll the fertile plains of Normandy traversed by broad and tranquil rivers. To the south smiles the fruitful Vendée country, low-lying and marshy.

Wind-swept Shores of a Granite Land

But Brittany, although it is laved on three sides by the Atlantic and enjoys a more favoured climate, mild and humid, is a country grim, desolate, almost forbidding, an immense mass of granite hurled up in remote ages by the mighty forces of nature. Yet its wind-swept moors, broken by roaring torrents, and its brave coast, tortured into fantastic shapes by the implacable ocean, possess a peculiar and compelling charm—a charm intensified by the survival of old practices and customs and by the remains, which everywhere abound, of the handiwork of

men whose history we can only guess. The nature of the country is reflected in its inhabitants. As Brittany is distinct from the land of which, geographically, it forms a part, so the Bretons, sullen, dogged, brave but superstitious, stand aloof from the nation to which, politically, they are joined. "Français, oui," they aver, "mais Breton avant tout."

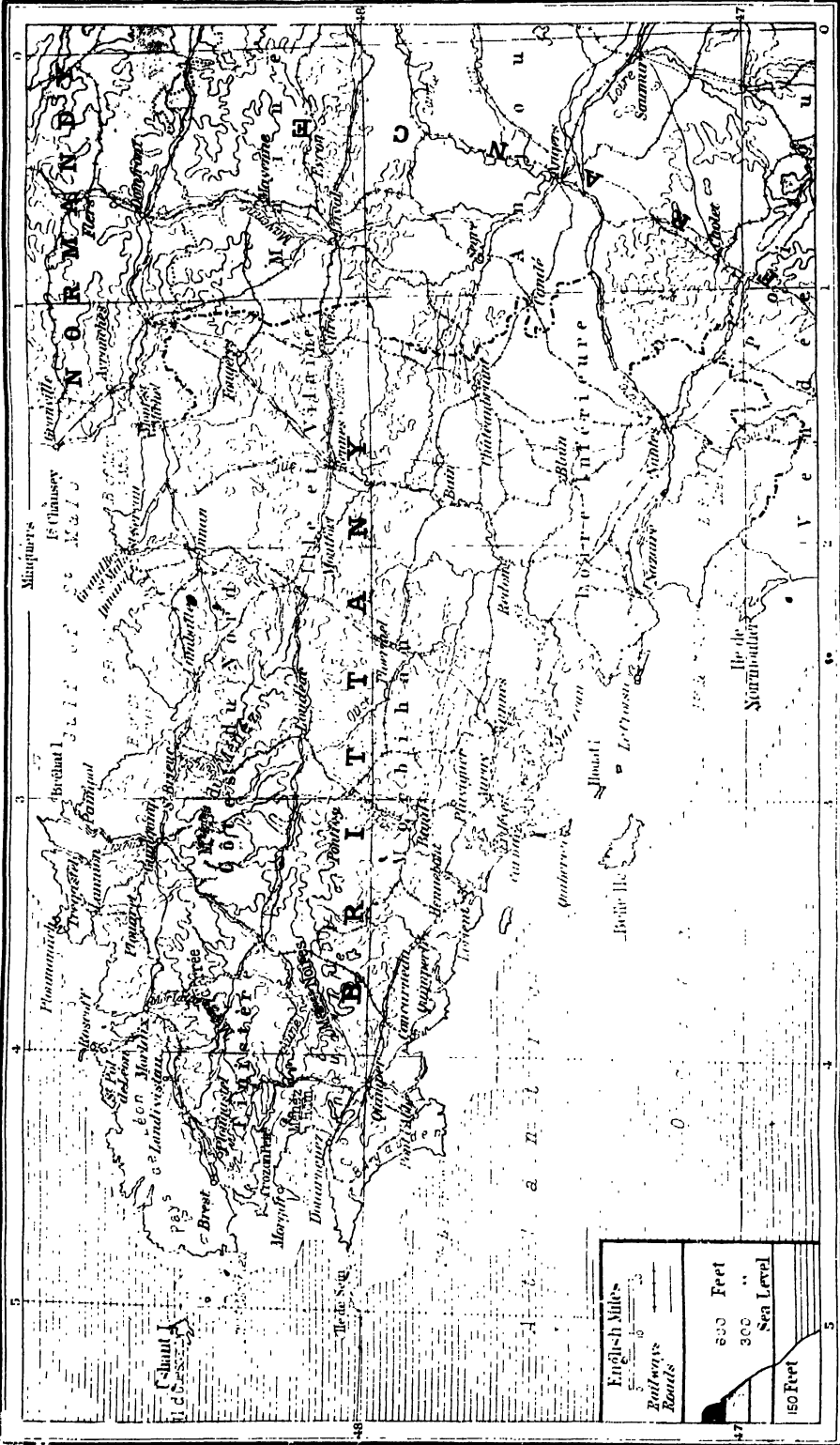
Devotion to an Immemorial Past

They still, for the most part, intermarry. They still, in the west and south, cling to their own rough speech—a Celtic tongue belonging to the Cymric group and akin to Welsh and the extinct dialect of Cornwall. They are still pathetically loyal to their own traditions and their own beliefs.

To-day, as when Dean Church wrote in the middle years of the last century, may still be found the old-fashioned Breton who "combs his long black hair and walks about unabashed in his 'bragou-bras' (baggy breeches), turns his back on the future and looks only to the past, on his dead ancestors and the Cross, and profoundly distrusts all improvements in this world. A grand, sublime, miraculous past is contrasted in his mind with a poor, uninteresting present, its mere appendix, and a future without form or hope till the Last Day; the past is to him the great reality of the world—the reality, not of dilettantism, but of life-long faith."

So it is with his country. The one has done much to shape the other.

Brittany was known to the Romans as Armorica (Celtic: *Armôr*, "by the sea"). In the fifth and sixth centuries its native inhabitants were reinforced by Celts from Britain. The latter, fleeing

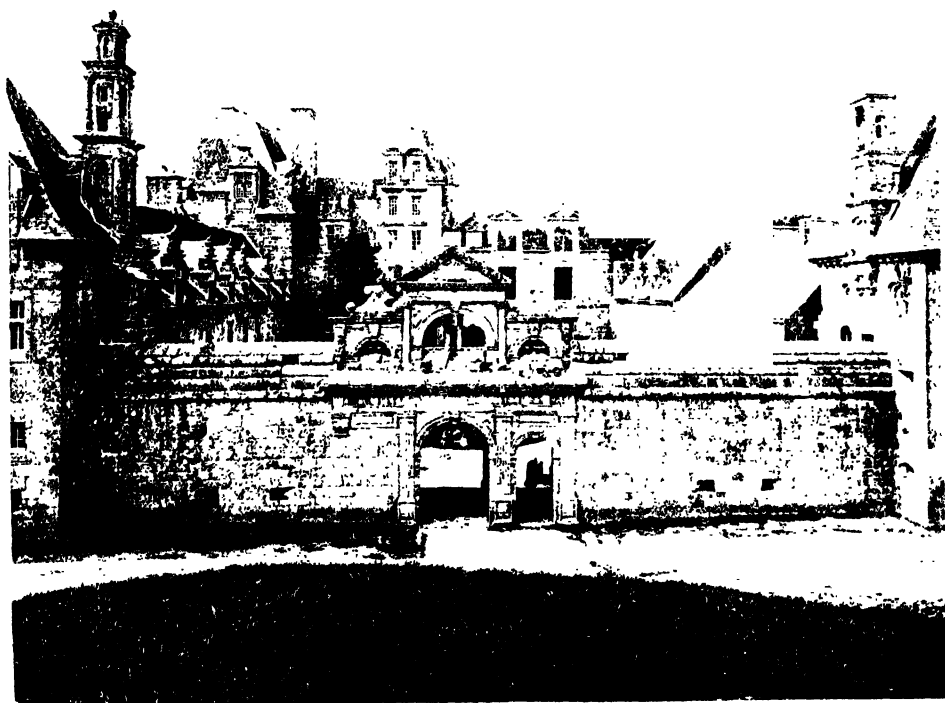


HOW THE GRANITE MASS OF BRITTANY SERRATED BY THE SEA JUTS FROM FRANCE INTO THE ATLANTIC

from destruction at the hands of Anglo-Saxon marauders, settled in large bodies in the country. So Armorica gradually acquired its name of La Bretagne.

Strongly entrenched in their rocky citadel, the Bretons held their own when the conquering Franks swept through Gaul; and it was only after a long and bitter struggle that, at a later date, they

"The true Brittany," wrote the historian Michelet, "'La Bretagne bretonnante,' is the element of resistance in France, a country which has become alien to our own, exactly because it has remained too faithful to our original condition, so Gaulish that it can scarcely be called French." Royalist sentiment is no longer an active force;



CHATEAU DE KERJEAN, THE VERSAILLES OF FINISTÈRE

Roughly between St. Pol-de-Léon and Landivisiu, and not far from Brest, stands the Château de Kerjean, sometimes called the Versailles of Finistère. It is a fine sixteenth century building in late Renaissance and flamboyant style; allowed since the Revolution to go to ruin, it has been extensively restored by a descendant of the ancient family to whom it originally belonged.

submitted to the nominal over-lordship of Norman dukes. In the fifteenth century their country was finally incorporated in the French kingdom. But right down to the time of the Revolution they retained a large measure of independence. Hence their long enduring loyalty to the monarchy. The Bretons had no wish to see the old order changed. Liberty, equality and fraternity meant only bondage to them. Worse than that, the doctrines of the Revolution threatened their religion. Religion was and is their very life.

the Breton, however, has little love for the Republic: he suffers it only while it is content to leave him alone. This has strongly reacted on trade and agriculture, and on the very configuration of the land.

Some years ago a special effort was called for to render a sea wall, newly constructed in the face of almost insuperable difficulties, immune from the assaults of an impending spring tide. Neither threats nor persuasion could induce the workers to rise to the occasion or forgo their attendance at



Humphrey Joe

BENEATH THE DIM ARCADES OF DINAN

Dinan, not to be confused with the Belgian Dinant illustrated in page 651, is a town of picturesque old streets on the left bank of the Rance, with a resident English colony of hundreds. Note the cart and the dog used for transport

the local Pardon. The wall was duly swept away. But the devout peasants remained blandly unconcerned; they knew "le bon Dieu" would reclaim His own. What else could be expected?

The Breton is a fatalist, the child of a cruel, exacting soil. He is a devoted servant of the Church but his Christianity is deeply rooted in pagan tradition. Both he and his country have suffered from their political and geographical isolation, from the very continuity of their history.

Brittany comprises five departments -- Côtes du Nord, Ille et Vilaine, Loire Inférieure, Morbihan and Finistère. The total area is nearly twice that of Wales and the population is rather less than half again as numerous. The departments are purely artificial divisions, administrative areas. Yet

each has its own characteristics, and the two most westerly, Morbihan and Finistère, have been the least de-Bretonised.

Côtes du Nord, with St. Brienc as its chief town, is primarily the home of a fishing community. In their quest for cod these fisherfolk range to the shores of Iceland and Newfoundland. On February 20 of each year two hundred or more fishing vessels of fairly large size leave Paimpol, and other of the little ports in the bay of St. Brienc, for distant waters. In France, to a greater extent than in other European countries, the government looks to the deep sea fisheries to provide men for the navy. The industry, therefore, is highly protected and well subsidised.

Rock-bound Finistère, once notorious for its wreckers, shelters the impregnable arsenal of

Brest and is also the home of fisherfolk and sailors, but its poor soil, fertilised with seaweed and sardine-head manure, produces flax and other crops in abundance. The Crozon peninsula, until not very long ago bare, uncultivated heath, is now planted with Austrian pine. From it the miners of South Wales derive many of their pit props. The department is the main centre of the sardine industry. Little Concarneau alone maintains a sardine fishing fleet of some eight hundred boats.

Morbihan, in the south, consists mainly of heath, but it supports large herds of cattle and flocks of sheep, and two not inconsiderable towns Vannes, which produces cotton and linen goods, and Lorient. The latter, now a fortified naval station, was founded in 1670 by the then newly established French



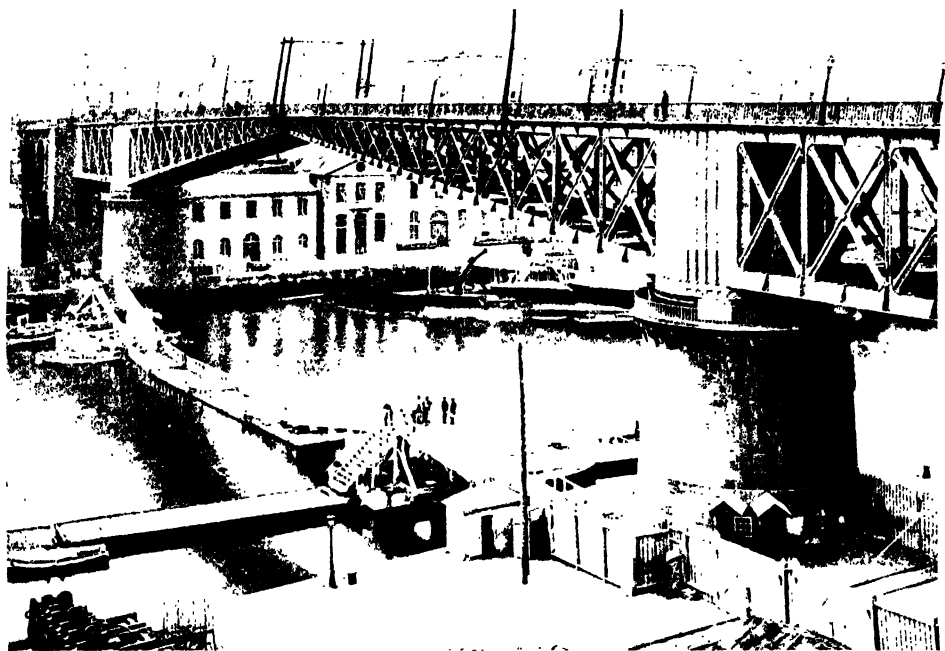
VENERABLE CLOCK TOWER THAT GIVES THE HOURS TO DINAN

There is an atmosphere of other days about the Rue de l'Horloge that seems to sum up the charm of the old Breton town of Dinan, with its memories of Du Guesclin and his exploits. The clock-tower dates from the fifteenth century, and the upper storeys of ancient houses project far over the roadway. Except for barge-building the population of 11,000 depends mainly on trade in country produce.



STONEWORK OLD AND NEW: DINAN'S ANCIENT RAMPARTS AND MODERN VIADUCT

About modern Dinan the most imposing feature is the stone viaduct spanning the Rance, a structure, by no means lacking in grace, 270 yards long and 130 feet above the river. We are here looking down-stream towards St. Malo with Dinan itself to the left—part of the old rampart is just visible. The chateau, Dinan, in the valley below is dominated with the rampart which, for there is considerable river traffic on the canalised Rance which first blew the river into a



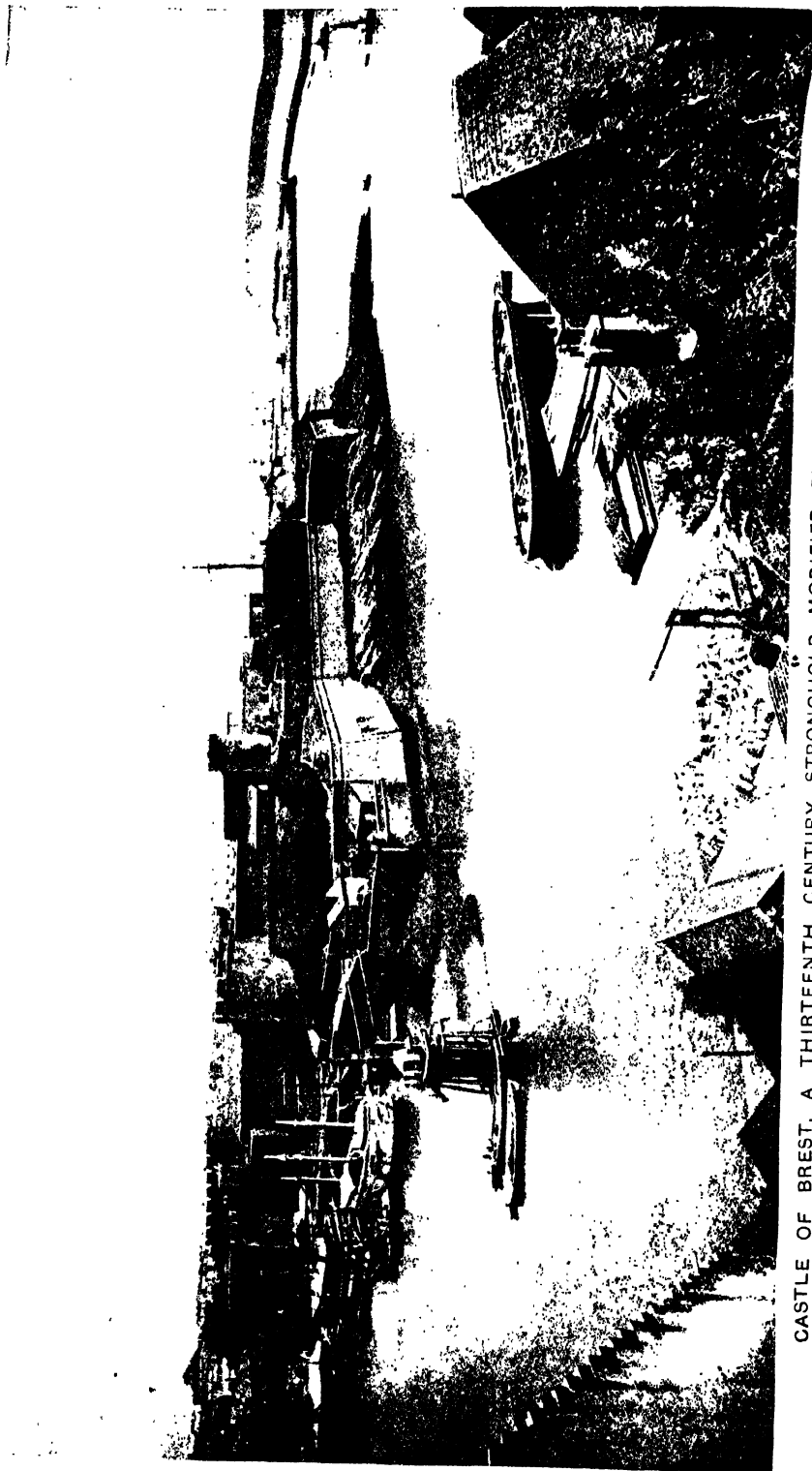
BRIDGE THAT ADMITS WARSHIPS TO THE NAVAL HARBOUR OF BREST

Brest can boast an engineering feat that is unique of its kind for size. Crossing the Port Militaire at the end of the Rue de Siam and connecting Brest with Recouvrance is the Pont Tournant or swing bridge; though together 125 yards long, the two leaf which it is composed can be opened by four men in about ten minutes. The pont bridge for t passengers can be drawn aside

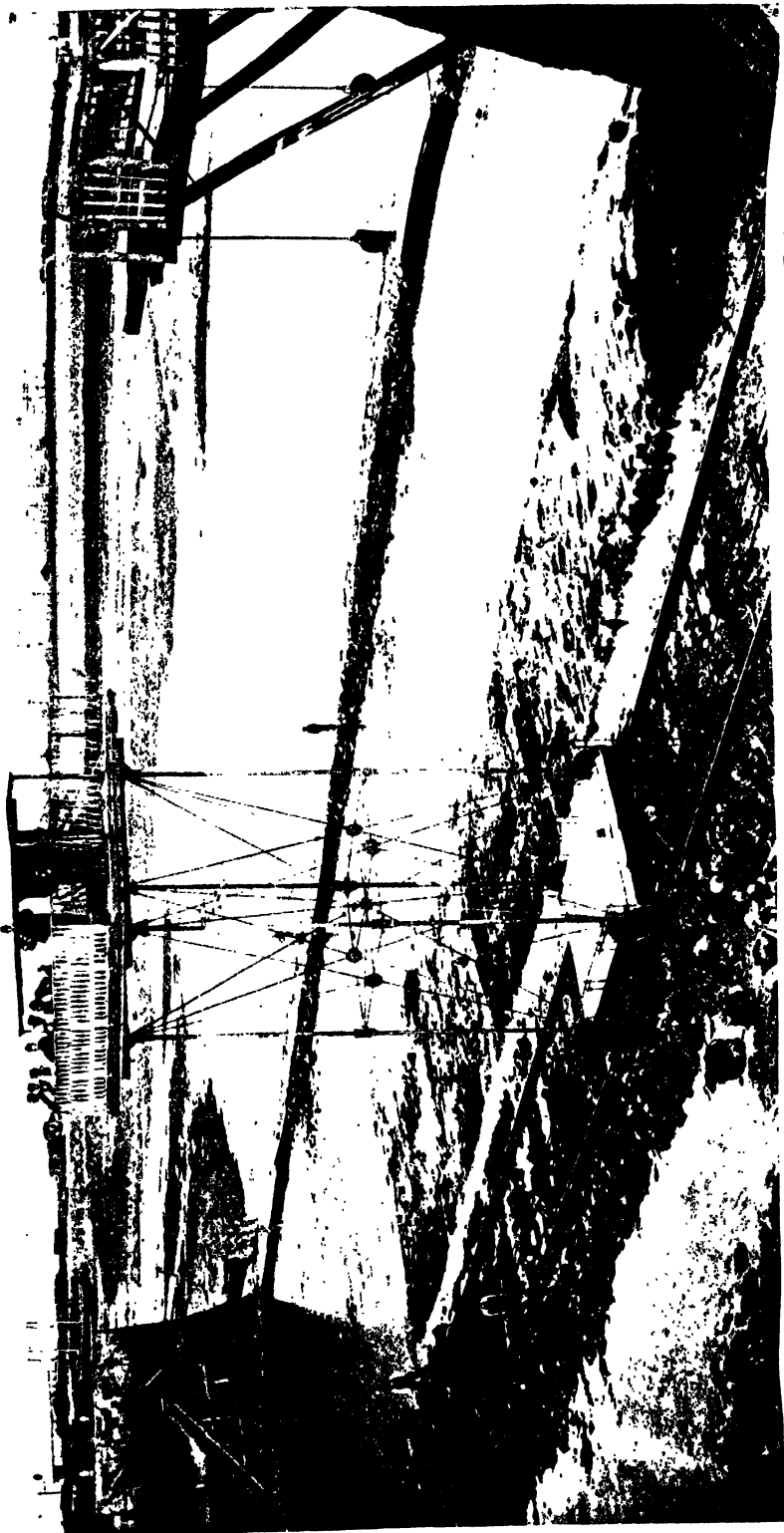
East India Company; hence its name. Agriculturally the wealth of Brittany lies in the favoured soil of the valleys of the Vilaine and Loire. The department of Ile et Vilaine, so called from the two rivers which unite at Rennes, the principal town, is essentially a corn growing district. Loire-Inférieure is noted for its fruits and produces a quite palatable wine. Salt is extracted in large quantities from the coastal marshes, while at Nantes and elsewhere extensive hemp and linen manufactures are carried on. Nantes has a population of some 140,000 souls. There is not another town in Brittany which can be compared with it in size. Apart from its industrial importance and historical associations, however, it is of little interest and is wholly French. Naturally Brittany is divided into two parts by the Ménez mountains.

These hills spread out in the department of Ile et Vilaine in a tableland studded with lakelets which feed the Vilaine. Thence they extend as a range from east to west across the length of the promontory, forking at the western end to form on the north the wild region of the Montagnes d'Arrée and on the south the Montagnes Noires.

The highest point attains to rather more than 1,200 feet, but the hills are nowhere impressive. They appear merely as bumps rising from the lofty plateau in which they are planted, and so lack the grandeur, for example, of the Dartmoor tors of southern England; the Ménez-Hom, which frowns over the bay of Douarnenez, alone has the semblance of a mountain. For landscape one must turn away from the sombre moorlands to the glory of the coast and the magic of the valleys.



CASTLE OF BREST, A THIRTEENTH CENTURY STRONGHOLD MODIFIED BY THE GENIUS OF VAUBAN
 Brest, France's largest naval depot, lies in an enclosed stretch of sea known as the Rade de Brest off the coast of Finistère, the westernmost department of the country, and is the capital of one of the seventeen economic divisions of France instituted after the Great War. The castle is here seen across the entrance to the Port Militaire, a kind of canal excavated from the mouth of the Penfeld; beyond are the breakwaters of the Port de Commerce, for besides the manifold activities of a naval station Brest does a great trade in chemicals, candles, soap and such like, its own manufactures, and is a fishing centre as well.



INVENTION OF A CITIZEN OF ST. MALO, A BRIDGE THAT WALKS ON THE BOTTOM OF THE SEA

St Servan began by being a mere suburb of St. Malo; now it is a separate town and the bigger of the two, though without the attraction of the older centre. They are separated by the Anse des Sables and by spacious docks extending inland, but to obviate the long journey round a bridge even more curious than that shown in page 969 has been constructed. It is known as the Pont Koulan¹ and consists of a platform on 40-foot struts that rolls along the sea-bed on submerged rails. Here the tide is out and all the mechanism can be seen; the engine that draws the bridge is on the right or St. Servan side.



SPIRE OF S. AARON OVER THE NARROW STREETS OF ST. MALO

St. Malo lies at the mouth of the Rance, on the right bank opposite Dinard, in the department of Ille et Vilaine. It is a watering-place as well as a port, contributes largely to the Newfoundland fishing fleet, exports provisions and imports coal and timber. On the Grand Bey, an islet off the coast, is the tomb of Chateaubriand. As here in the Grand Rue the streets are very narrow

Towards the north the central table-land falls sharply and is seamed with ravines, rocky and thickly wooded, through which rivers—such as the Morlaix, for example, the Gouet and the Rance—have cut their tortuous ways to the sea. The Rance, navigable

Westwards from the bay of Mont St. Michel—past Dinard and other resorts of the Côtes du Nord—as far as Cape Fréhel have been formed numerous bays from which, at low tide, the sea retreats a great distance, leaving wide expanses of sand. Beyond this point



CHATEAU DES ROCHERS, A LINK WITH MME. DE SEVIGNE

Vitre, a town of nearly 11,000 inhabitants on the left bank of the Vilaine, exceeds in charm most other towns of France if quaint and ancient houses are the end in view. It was a noted Huguenot stronghold. Among its greatest attractions, however, is the Château des Rochers, four miles to the south, a delightfully pinnacled sixteenth century pile where Madame de Sévigné often dwelt

in its lower reaches for small steamers, joins the sea at St. Malo and affords a pleasant means of communication between that walled and old-world town and Dinan, also walled and yet more delightful, an architectural gem.

An outer barrier of reefs, rocks and islands strives to protect the coast of Brittany from the fury of the Atlantic. But the fine-grained granite of the country is for the most part soft and easily corroded. The builders of yore, as many an edifice, ecclesiastical and secular, survives to show, were able lavishly to chisel it. Where worked on by the mighty hand of the Atlantic, it has been torn to shreds.

the coast is wilder and more rugged. In some parts the scenery is superbly grand; in others it is awful in its desolation. The Ploumanach-Trégastel region, a wilderness strewn with heaped up masses of broken and distorted rock, is as weird a stretch of coast as can be found, a fantasy of devastation — and the sea is still destroying.

This is the threshold of Brittany proper, the Brittany of the Bretons. The remoter parts of Finistère, not easily accessible, are known to the few rather than to the many, but they repay a visit. The villages, particularly the churches, are extraordinarily picturesque and the natives are still



Humphrey Joel

OLD HOUSES AND QUIET MARKET-PLACE OF THE BRETON CAPITAL OF FINISTERE

The department of Finistère has its capital at Quimper, a beautiful town situated where the Odette and the Steir join their waters some 15 miles from the sea. Its lovely cathedral of S. Corentin, shown in colour in page 992, is accounted one of the finest Gothic edifices in Brittany, although the famous twin spires, much more modern. Industrial works include tanneries, linoleum, paper-mills, potteries and shipbuilding yards, and the population supported by the sea is over 200,000. Note the Breton headdress of the women in the foreground.



Humphrey Joel

QUIMPERLE, ONE OF BRITTANY'S PASTORAL CENTRES

Close to where Finistère borders on Morbihan the Ellé and the Isole unite to form the Laita, and at their junction lies Quimperle.—"kemper" means confluence in Breton. This view in the cattle and horse market might be a scene in a Welsh village with its four square, whitewashed cottages; and indeed there is much in Brittany besides the language to emphasise its ancient connexion with Britain.



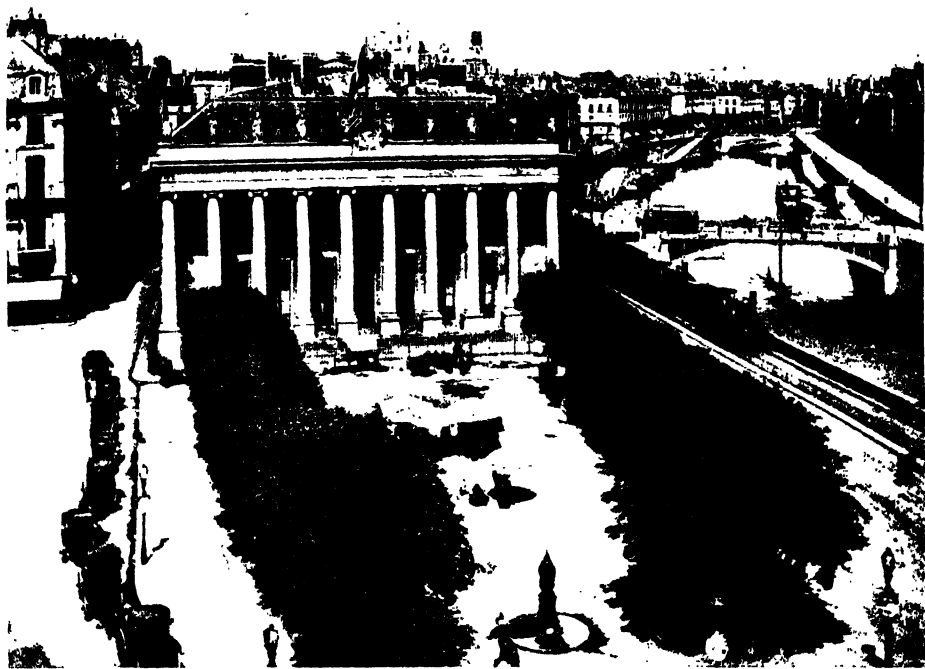
Humphrey Joel

WHERE PIGS ARE MARKETED IN QUIMPERLE

Breton dress and Breton manner are illustrated in this vivid little glimpse of the pig market at Quimperle. The town has been of some importance since 1271, but its existence in some form dates from long before that—it is referred to as early as the sixth century. Its trade is concerned with the produce of the countryside—cattle, hides, butter, wood, corn, wax and honey being marketed



NOONTIDE IN THE PLACE DE LA MARINE, ST. NAZAIRE, WHERE THE SHIPS COME IN FROM THE SEA
 Commercial enterprise has lavished money on the harbour, docks and quays of St. Nazaire, with the result that it ranks seventh among the ports of France. The town stands on a promontory on the right bank of the Loire, near the sea, and has ship-canal communication with Nantes, 35 miles higher up the river. St. Nazaire is essentially a modern town, with little pretension to architectural beauty. It maintains regular steamship communication with South America and



BESIDE THE QUAYS AND BRIDGES OF HISTORIC NANTES

Capital of the department of Loire Inferieure and a great port of France, Nantes stands on a network of waterways formed by the Loire, the Erdre and canals. This eastward view shows the Bourse and the adjoining quays, the Ponts de la Bourse and d'Aguillon, in the distance the Cathedral of S. Pierre, and, to its right, the towers of the castle of the old dukes of Brittany

unsophisticated Celts, a people of superstition and mystery. Accommodation is inexpensive and the inns generally are clean and comfortable; streams filled with trout, to be fished for the asking, are everywhere to be found, and the whole district is very rich in artistic and antiquarian interest—in ruined castles, dolmens, menhirs and other prehistoric remains.

The actual "Land's End" is buttressed by three large peninsulas—the Pays de Léon, separated from Ushant by dangerous reefs; the Crozon peninsula, with its three bold, projecting capes; and the desolate and rocky Cornouaille. Between these peninsulas lie two deep indentations, the Rade de Brest and the bay of Douarnenez.

Brest, with its great arsenal which gives employment to many thousands of hands, is a singularly unattractive

town. Brest Roadstead, on the other hand, is the finest natural harbour in Europe. Within its one narrow, bottle-neck entrance, illuminated by five lighthouses, lies a stretch of placid water fourteen miles long and seven miles wide.

In the bay of Douarnenez are the grottoes of Morgat, the most remarkable, perhaps, of the caves along this coast. The largest—the so-called "Altar"—can be visited only by boat; it is a vast hall of rock, some 50 feet high, 150 feet long and 75 feet wide, and the light entering it from below, through the sea, spreads over roof and walls, mosaic-like, a wonderfully varied range of brilliant hues. In the midst rises the stone—a block of red granite—which has given the grotto its name.

Beyond the point of Penmarch, the outliern extremity of the Cornouaille,



Underwood

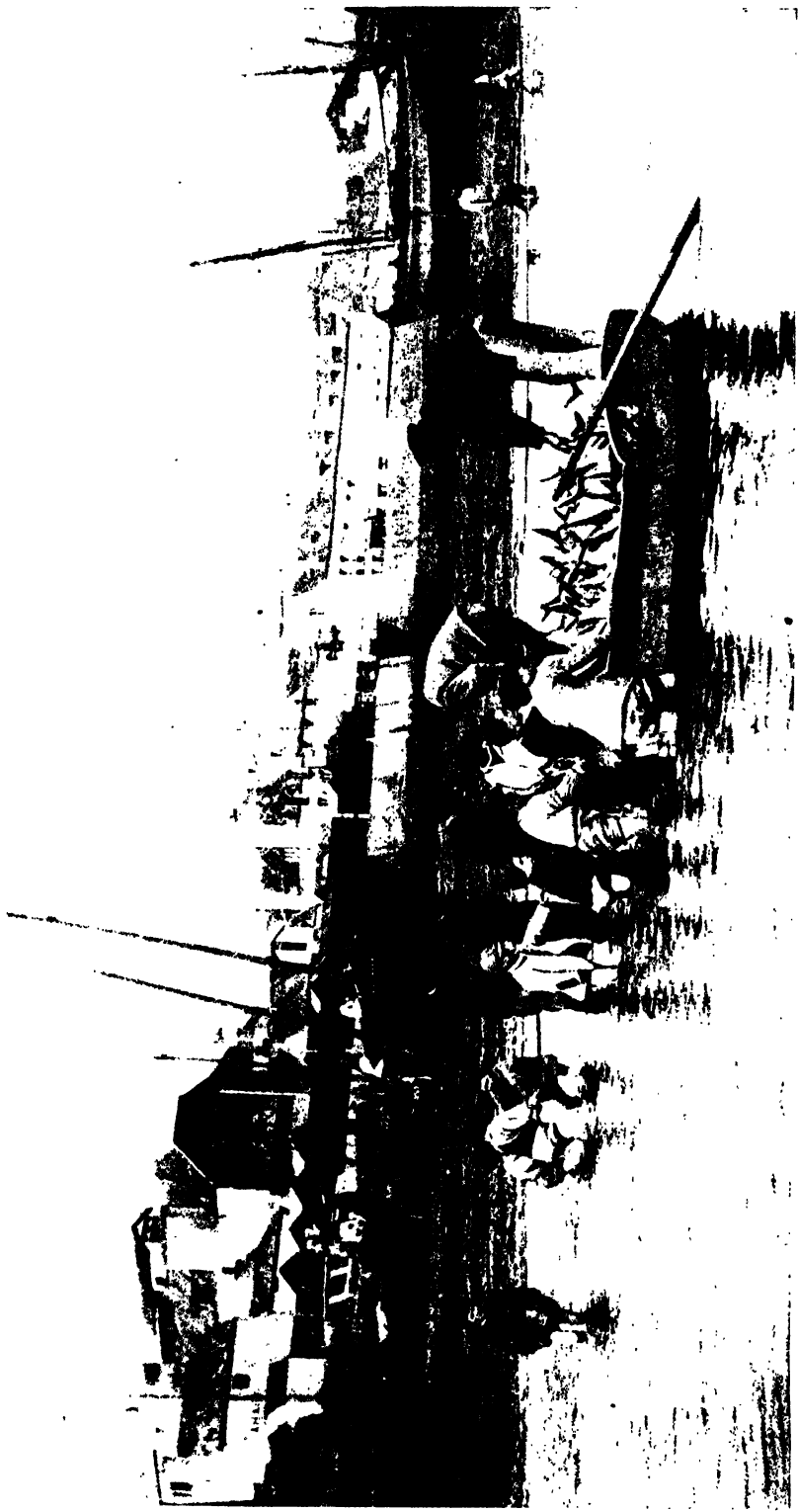
LAUNDRESSES AT THE PUBLIC WASHING-PLACE OF PONT AVEN

Attracted by its lovely setting many artists resort to Pont Aven, near Quimperlé. It lies beneath rounded hills near where the Aven widens out into a tidal estuary after turning many mills in impetuous course. The surrounding district is noted for the picturesqueness of the Breton costumes. Aven is the same word as the English Avon and occurs as the Celtic name for a river under many forms



TIMBERED MEDIEVAL DWELLINGS THAT GRACE ST. BRIEUC

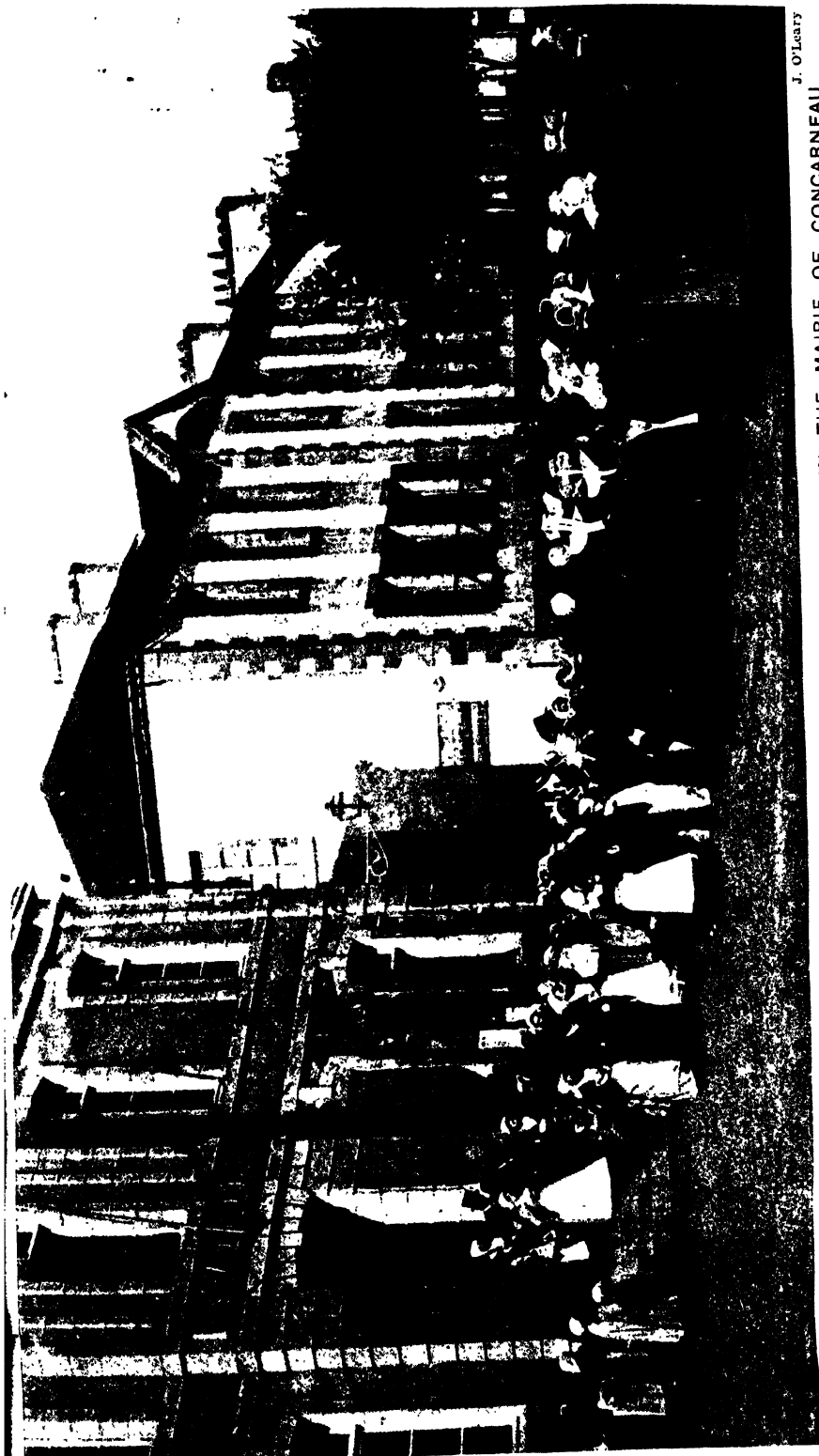
In spite of its 23,000 inhabitants and the fact that it is the capital of the department of Côtes du Nord, St. Brieuc is rather a sleepy town on the Gouet, which empties into the Baie de St. Brieuc on the north coast of Brittany. Founded by a Welsh missionary, S. Briocus, in the fifth century, it has a long history behind it; one of the oldest houses in this street, the Rue Fardel, is dated 1572.



Underwood

BRINGING A CATCH OF TUNNY ASHORE FROM A FISHING SMACK AT CONCARNEAU

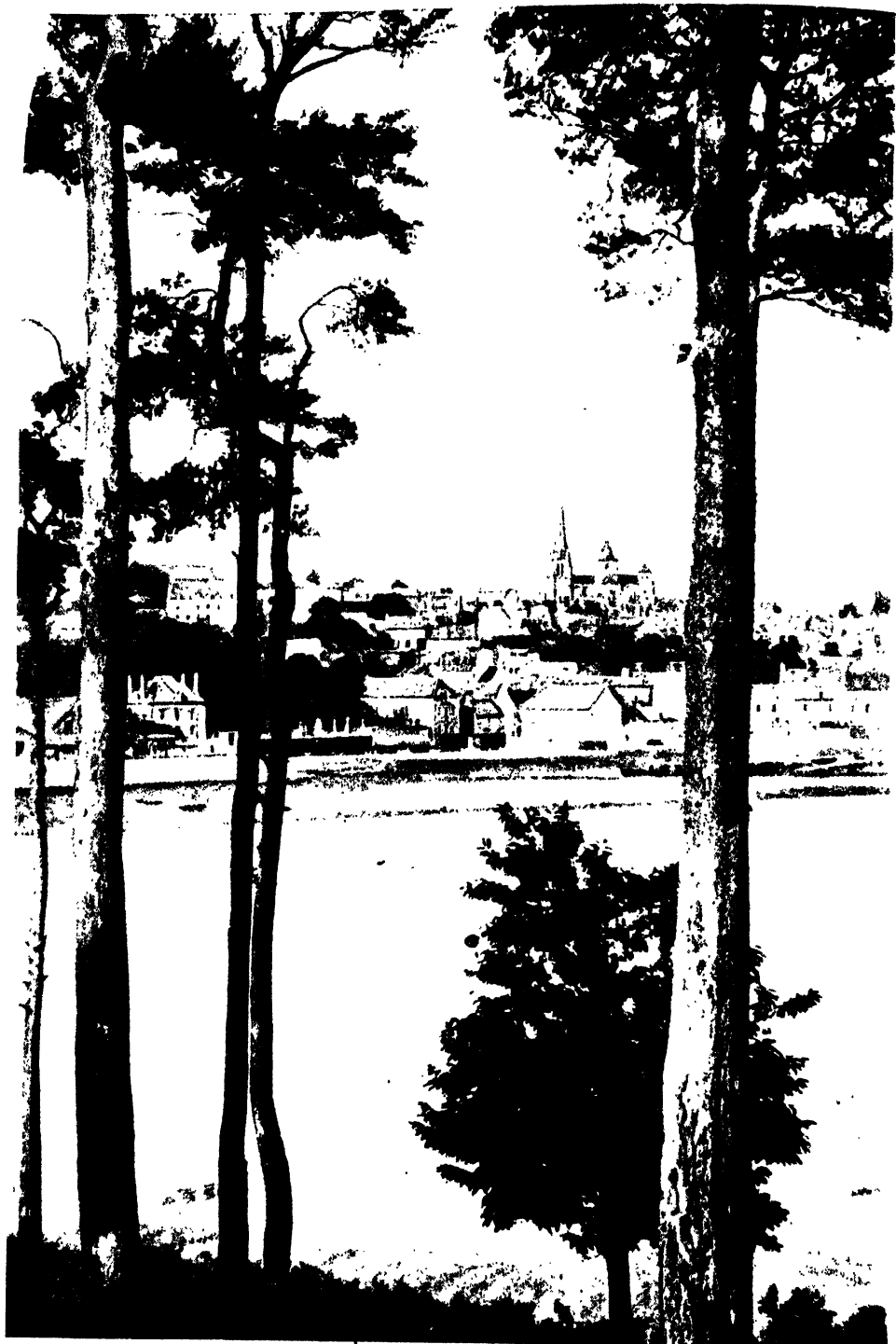
Tunny, sardines and lobsters are principal sources of revenue to the people of Concarneau, a little fishing town on the east side of the Baie de La Forêt. The tunny, big fish of the mackerel family, are trawled for in schooner-rigged vessels and hung up aboard to dry until the end of the cruise, when they are brought ashore in dinghies, as shown here. Sardines are taken direct to the local canneries on being landed. Large numbers of lobsters are reared in an aquarium at the mouth of the harbour and transported directly with the sea.



J. O'Leary

GREETING THE BRIDE AND BRIDEGROOM AFTER THEIR CIVIL MARRIAGE IN THE MAIRIE OF CONCARNEAU

Concarneau on the south coast of the department of Finistère is a favourite resort of artists drawn thither partly by the beauty of the old Ville Close, set on an islet and defended by fourteenth century fortifications, and partly by the beauty of the local costumes of the women, who also are famous for their good looks. Women and costumes are seen at their best on the occasion of a wedding at the Mairie in the new town, when, after a copious feast, the wedding party and the general public assemble in the market-place and dance for hours on end.



CONCARNEAU'S NEW TOWN VIEWED THROUGH A FIR-TREE FRAME

Undervood

Although only a small seaport with a population of some 6,000 people Concarneau is of commercial importance owing to its fisheries and sardine tinning factories. It is connected with the line from Quimper to Quimperlé by a branch railway to Rosporden. The new town is commonplace compared with the old Ville Close, but it has a museum notable for its collection of Breton costumes.

the coast bends sharply to the south-east and, protected by an island chain, gradually loses its ragged, rocky character in sheltered inland seas, till it ends in sand dunes and the mouth of the Loire. Yet this somewhat dreary Morbihan district is in many respects the most interesting part of Brittany. It is pre-eminently the country of the men of long ago, and is strewn with Romano-Gallic and yet earlier Bronze Age and Neolithic remains, dolmens and menhirs innumerable.

The dolmen, a chambered cairn rudely formed of upright stones and roofed by a cap stone, was designed, it would seem, by men of a prehistoric age to serve as a tribal or family ossuary; while menhirs, single upright stones, were raised sometimes to mark boundaries, more often in honour of



IN GABLED AURAY

Auray, on the tidal river Auray flowing into the Golfe du Morbihan, is a centre of oyster culture. Its Rue Pavée is very quaint



HALF-TIMBERED HOUSE IN OLD MORLAIX

Morlaix, with its tidal port on the north coast of Finistère, is particularly rich in timbered houses, some of them with fine galleries round interior courts and with carved staircases. This specimen is in the Venelle aux Pâtes

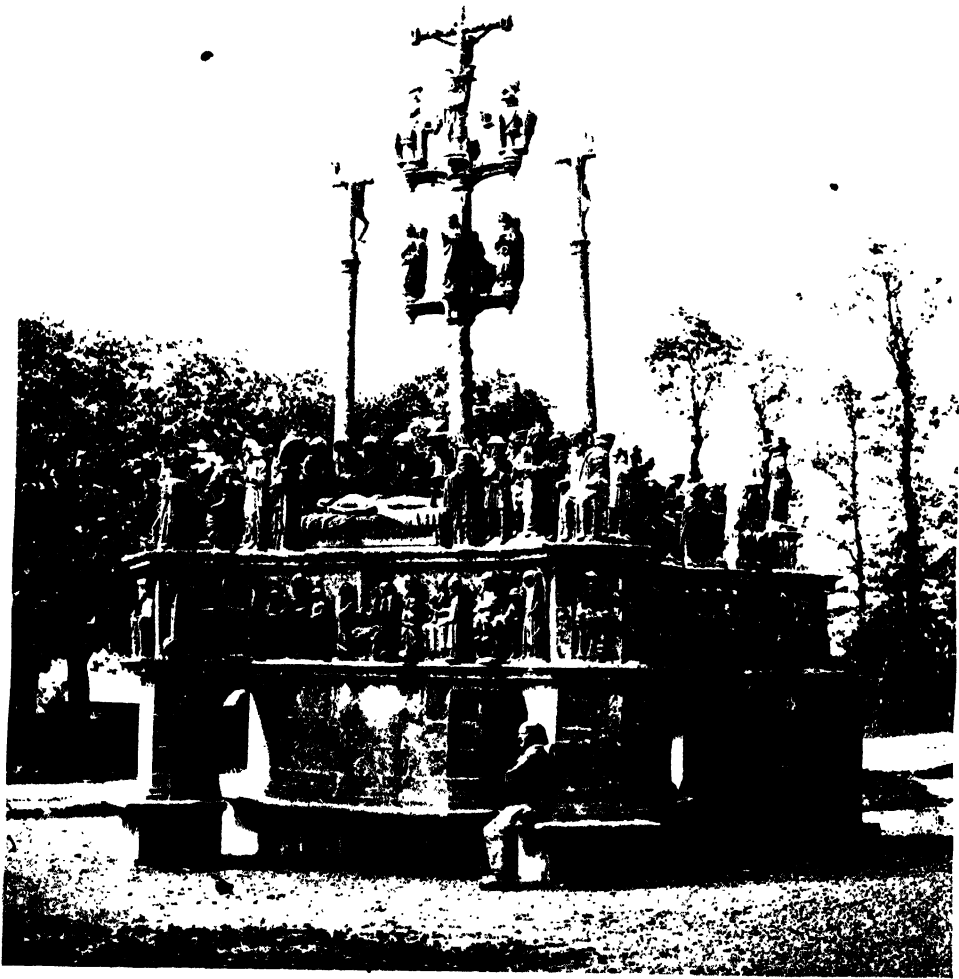
the dead laid in the dolmens. In the famous "lines" at Carnac there are some twelve hundred of these stones still standing, ranged in eleven rows. Near by, at Erdeven, are similar alinements which extend, with gaps, for more than two miles.

The place names in this region are, with few exceptions, all derived from funeral ceremonies;

BRITTANY

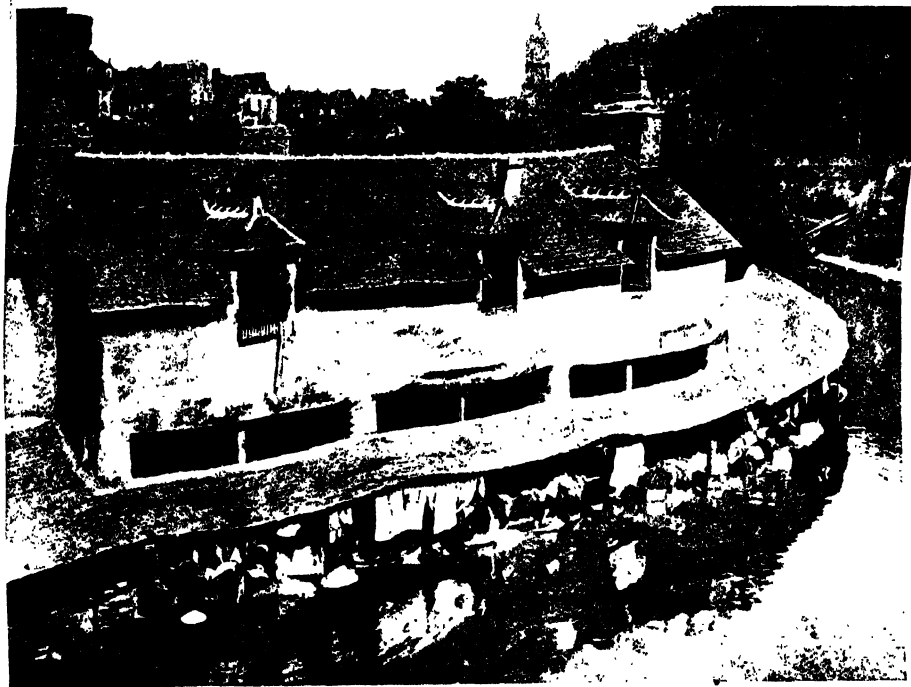
Plouharnel, for example, means "the bone houses"; Kerlescan, "the place of ashes"; Kermario, "the place of the dead." The whole district, in fact, was at one time a great necropolis sacred to a people whose religion was an elaborate cult of the dead. In the Pardons, those patronal feasts which are the outstanding characteristic of Breton life, the cult still lingeringly survives disguised under the cloak of Christianity.

The Bretons, it has been said, "men transferred to the Holy Family and the saints of Christianity the veneration formerly accorded to heathen gods. In a number of cases pagan images even to-day are objects of devotion. The famous Venus of Quinipily, near Baud is a case in point. With this crude Romano-Gallic sculpture mysterious rites are still associated. Another Roman statue, a mutilated horseman at St. Marcel, near Plouïaret, also receives a



MARVEL OF RELIGIOUS ART AT PLOUGASTEL IN FINISTÈRE

This wonderful Calvary, constructed 1602-4, is the chief glory of Plougastel, a village of Finistère on the left bank of the Elorn almost opposite Brest. A low arcade surrounded by a frieze carved in bas relief with representations of events in the life of the Saviour supports a platform crowded with figures sculptured in the round, in the midst of which rise the three crosses



WASHING CLOTHES IN THE CONLEAU AT VANNES

ancient Armorica Rome's most intractable enemies were the Veneti : and their name is commemorated to-day by Vannes, capital city of Morbihan. It lies about two miles and a half from the enclosed Golfe du Morbihan, and through it flows the Conleau on whose banks this "lavoir" or washing-place. Salt and grain are exported from the small harbour up the river.

cult. Thither the sick are brought and mounted on the horse's back ; despite the protests of the neighbouring clergy, it is alleged that remarkable "cures" have been effected.

Of the towns of Brittany, apart from those already mentioned, Morlaix in the north and Quimper in the south call for special notice. Quimper is the seat of the manufacture of the well-known talence which bears its name, an attractive ware copied from old Rouen, but nevertheless possessing a character that is quite its own.

Rennes, the ancient capital, though a busy market and manufacturing centre, is a deplorable place. When the old city was burned to the ground in the eighteenth century, a new one was raised on its site in execrable taste. The cathedral is an architectural monstrosity. But on the other hand the cathedral at Quimper, the graceful church of S. Corentin, is the glory of Brittany.

Both Quimper and Morlaix, moreover, contain almost perfect specimens of medieval streets, and are less French in their manners and general appearance than other towns of Brittany.

The Bretons as a rule shun the towns. The tourist can hardly hope to see them in any number in all the splendour of their native gala costume unless he attends a Pardon. In the eastern, that is the de-Bretonised, parts of the country, Pardons have degenerated into mere village revels. In the departments of Finistère and Morbihan, however, they still retain much of their time-honoured significance.

The most spectacular are those of S. Jean at Plougastel (June 24) ; S. Jean du Doigt, near Morlaix (June 23 and 24), where the object of the cult is a reliquary alleged to contain a finger of the Baptist which is supposed to have its nail pared annually ; S. Anne d'Auray (July 26) ; and S. Anne-la-



J. O'Loary

CHRISTIANITY'S EMBLEM IMPOSED UPON A PAGAN MONUMENT

About a mile and a quarter to the south-east of Dol, in the department of Ille et Vilaine, stands this gigantic monolith, the Menhir du Champ Dolent, somewhat incongruously surmounted by a wooden cross. It has a circumference of 27 feet and a height of 30 feet above the ground, into which it is sunk 21 feet. Though slowly crumbling under weather action it is a most impressive monument



Underwood

CATTLE BROUGHT FOR BLESSING TO THE ALINEMENT OF MENEC

In recorded history Brittany has a storied past of which to be proud, but the rough monuments of Carnac are relics of a far more remote antiquity. This village by the shores of Quiberon Bay gives its name to three vast alignments of upright "menhirs," which played a part in the religion of the neolithic and early Bronze Age inhabitants. The religious feeling still persists, as suggested here



TWIN "TALKING MENHIRS" ON THE STORIED ILE DE SEIN

Other neolithic monuments are found on the Ile de Sein, an islet off the Pointe du Raz, the westernmost promontory of Finistère; there, according to legend, were an oracle and sanctuary, and many tales have gathered round these two menhirs. They are called in Breton "Fistillerien" or in French "les Causeurs," the Talkers, which may refer to the oracle or to their quaintly intimate attitudes

Paluc, near Douarnenez (the last Saturday and Sunday in August). To these the faithful flock from great distances; for the last named as many as 30,000 people assemble.

But many of the smaller festivals are even more interesting, and their number is legion; in Brittany every shrine and chapel has its day. The Pardons in the vicinity of Pont l'Abbé, the Bigauden district of Finistère, are particularly showy by reason of the gaudy costumes of the pilgrims.

The Bigaudens are a people apart from the Bretons, distinct both in manners and appearance; and the Bigauden women, with their staring eyes and prominent teeth, are conspicuously ugly. They are sprung from men who inhabited the country before the coming of the British, and still keep very much to themselves, avoiding their Breton neighbours who are generally inclined to mistrust them.

Three lines of railway run through Brittany from west to east— one in the north, one in the centre and one in the south. By means of these and transverse lines the country is well linked up. The railway and, more recently, the ubiquitous motor vehicle, by widening the peasant's market, has done much to widen his outlook. But the process

operates very slowly. In the west, suspicious of everything French, the peasant still obstinately sets his face against progress, against modern methods and new ideas. Living under the wretched conditions of his kinsman in western Ireland, among his pigs—his chevaliers de Rohan as he quaintly calls them—he battles hopelessly against grinding poverty, the slave of drink and superstition.

St. Nazaire, the port of Nantes at the mouth of the Loire, is the centre of such sea-borne trade as Brittany can boast; and there is a regular passenger service with England via St. Malo and Southampton. A service between Brest and Plymouth was once attempted for a short time but soon discontinued. This on the whole is to be regretted. The crossing, it must be admitted, was often unpleasant, but, as a gateway to Brittany, Brest has many advantages over St. Malo—save for the motorist.

The motorist can go whither he will. Roads and inns alike are surprisingly good. Only one serious charge can be brought against the roads. Like those of Cornwall, they run just too far from the coast to show the grandest scenery—and for the same reason; coombs and ravines drive them inland except where there is an important town.

BRITTANY: GEOGRAPHICAL SUMMARY

Natural Division. A peninsular plateau, of which the granite core is the worn-down remnant of part of the Armorican Mountains, the great east-west chain of pre Alpine mountains in Europe. Attached politically is the lowland of Loire Inférieure. Physically Brittany is isolated from the rest of France, which is made up of the Paris basin, the Garonne basin, the Rhône basin and the Central Massif.

Climate and vegetation. The climate is oceanic, and is controlled by the west winds and the west wind drift of the surface waters of the ocean; the coast is foggy; the higher ground is the rainier, over 40 inches annually; the winters are as warm as the Riviera, the summers are as cool as Flanders. Apart from the cultivated area, much of the land is poorland or poor pasture; there is little forest; the land is beyond the northern

limit of the vine, and cider takes the place of "vin ordinaire."

Products. Fish, cod, herrings from north coast ports and sardines from south-coast harbours. Butter and early vegetables from the "ceinture dorée" near St. Malo. Brest is an arsenal, Nantes and Rennes manufacture textiles. Most of the people farm the infertile soil under inclement skies for local purposes in a fashion rendered almost sacred by hoary tradition; exiguous nature grants a small return to unceasing labour.

Outlook. Brittany is the remote west—in France, but not of it. Slowly the influence of the government is improving the farming; slowly the hide-bound Breton is adopting modern methods of land-holding, tillage and marketing his crops, and the future lies with this movement and a greater share of the harvest of the sea.



BRITTANY. All over the Land of Pardons symbols like this fine crucifix beside Concarneau Bay express the soul of a religious people



Most astounding of the megalithic remains in the world are the alignments near Carnac. At Kerlescan the menhirs stand in 18 rows



BRITTANY. Still covered by its mighty capstone the Dolmen de Kergavat is one of several near Plouharnel on the way to Carnac



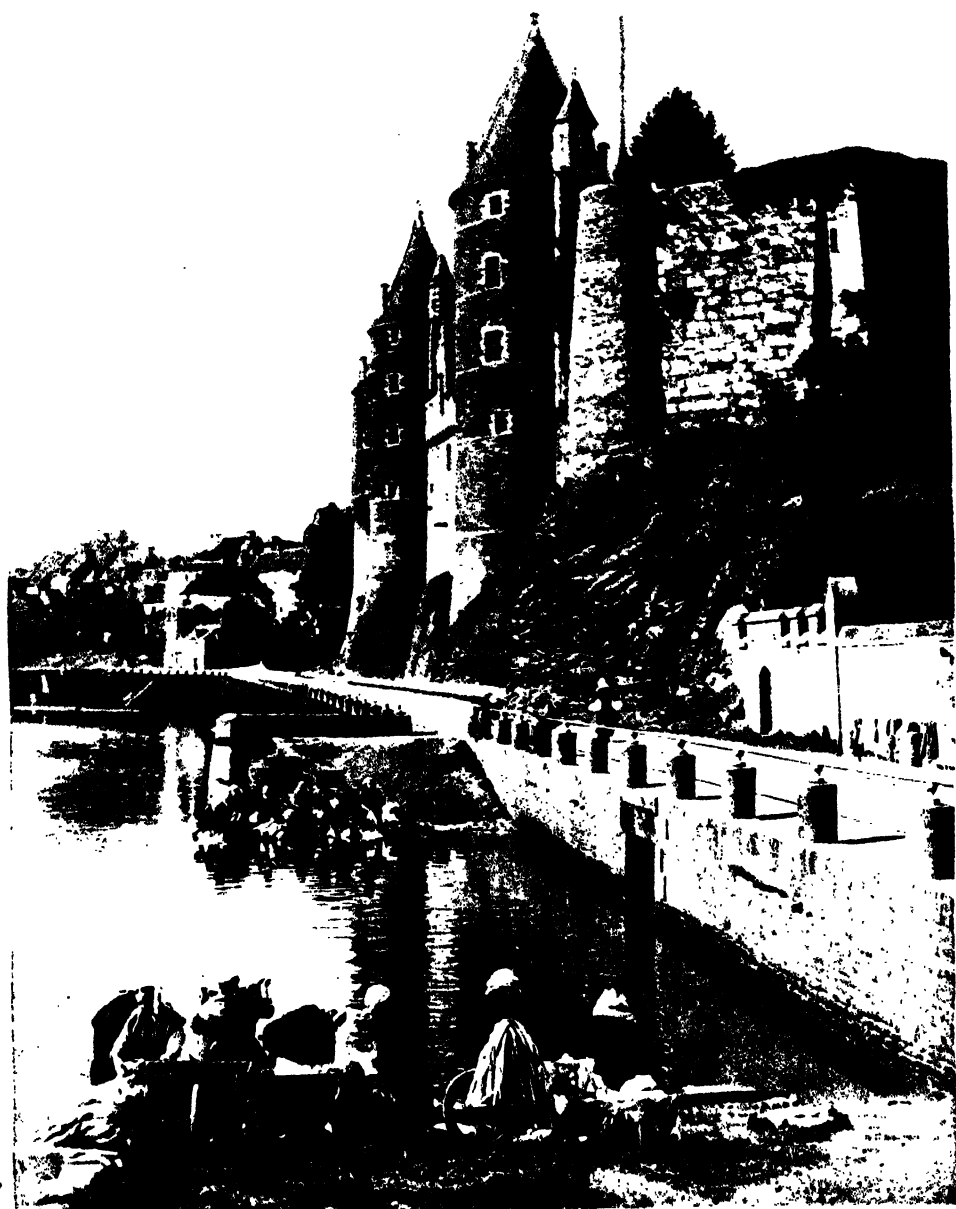
Associated Press Service

BRITTANY. Washed by the Atlantic and by the English Channel the coast of Finistère is made dangerous by outlying rocks and islets



L. A. Crook

BRITAIN. *Supreme glory of Quimper, that "pleasant city of
fabrics and gables," is the twin-spired cathedral of S. Corentin*



STREET PHOTO

BRITTANY. Where the river Oust flows past the old storied castle of the Rohan family the women of Josselin do their laundering



Humphrey Toft

BRITAIN. Within the turreted walls that enclose Dinan are many curious narrow streets, especially here near the *Porte du Jersual*



Barred Release

BRUSSELS From the openwork tower of the Hôtel de Ville wide views of the city are obtained, like this of the Palais de Justice



Donald McLeish

BRUSSELS. Medieval architecture is represented in its full glory by the Grand Place of Brussels framed in superb guild-houses

BRUSSELS

Belgium's Capital To-day & Yesterday

by E. Gilliat Smith

Author of "Brussels," "Bruges," etc.

IN the beginning the city of Brussels was a castle, a church and a cluster of huts on a long, low-lying swampy island in the river Senne. Brussels (*Bruck-Sel*) means "The Castle in the Stream."

The river now flows underground, and of the castle no trace remains; but archaeologists tell us that it stood on the site now occupied by the Place Saint G ry, and there is a tradition that this saint, who was bishop of Cambrai in the closing years of the five hundreds, was the man who built it, and that the church was built a hundred years later by Pepin of Landen.

His descendant, the luckless Charles of Lorraine (or Karel of Lotharingia), ~~last~~ but one of the blood of Charlemagne in the direct line, is the first prince whose name is intimately associated with Brussels. Some say that he was born in the old castle, which seems to have been at one time his mother's ~~home~~, and we know that when in 978 the Emperor Otto II. invested him with the duchy of Lorraine, which at that time included the counties of Louvain and Brussels, he made this stronghold his seat of government, and that he lived there for fifteen years.

Cherished Fane of the Low Countries

What Westminster Abbey is to England, and what Saint-Denis is to France, that to the peoples of the Low Countries generally and especially to the men of Brabant is the great collegiate church of S. Michael and S. Gudule. This noble sanctuary, the burial place of the dukes of Brabant, owes its origin indirectly to Charles; and if it had not been for him the men of Brussels would never have had

S. Gudule for a patron saint. She was a granddaughter of Pepin of Landen, and thus of the same blood as Charles.

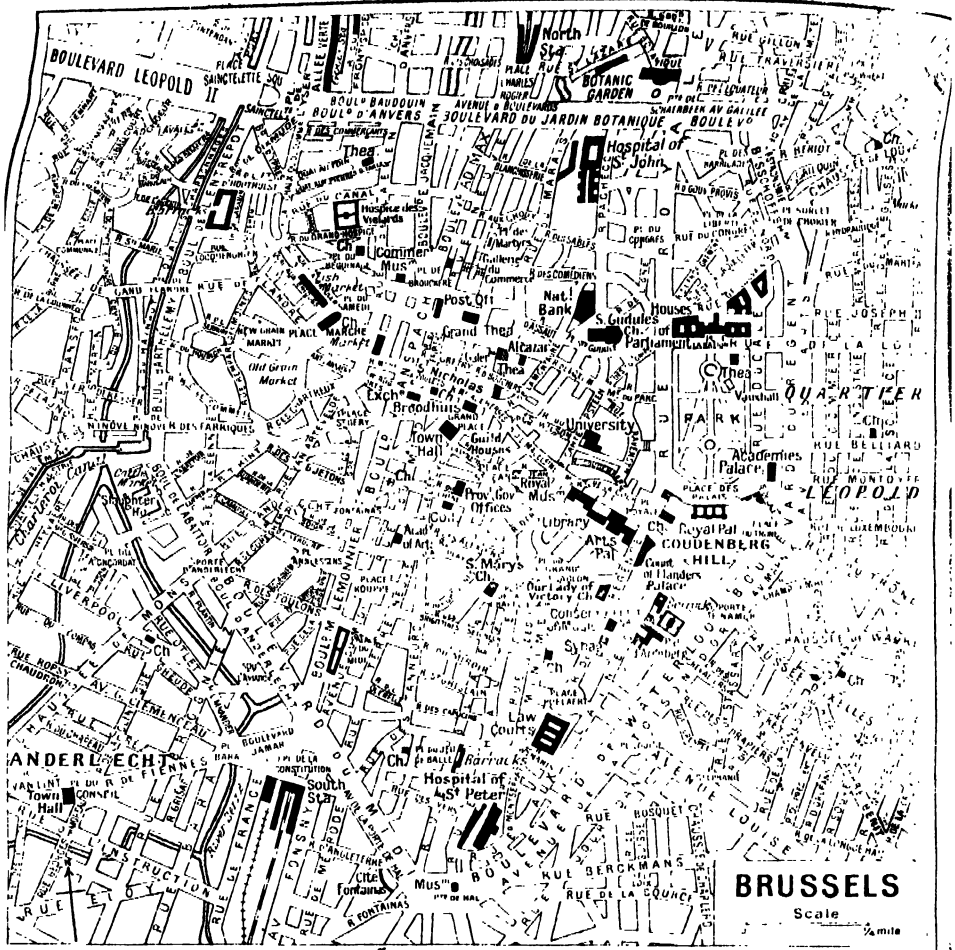
She had lived all her life in the castle of Mortzel near Alost and died there in the odour of sanctity in 712, and her bones were laid to rest in the abbey church of Mortzel, which was her parish church. When Charles first came to live at Brussels, the Abbey of Mortzel was occupied by a small community of nuns and the big man of the place, one Wulfger, with his wife and children, and a large retinue of servants.

Patron Saints of Court and Mart

This arrangement, though common enough in those days, was not to the liking of my lady abbess; but when she complained to Charles and he gave him notice to quit, Wulfger refused to budge. He was there, he said, to defend the nuns, as his father had been before him, and though they failed to appreciate his goodness it was against his conscience to desert them.

Charles was not strong enough to coerce him, but, loth to leave his kinswoman's bones in the keeping of a man of this sort, he had them removed to Brussels, where he gave them honourable burial in her grandfather's church. And from that day to this S. Gudule has been one of the patron saints of Brussels. The other is S. Michael; she was the saint of the court, he of the burghers, and it was his image, not hers, which stood, and which still stands, on the highest pinnacle of the town-hall.

Only one building of Charles's day remains to us and it is a jewel, though a rugged one, that has never been recut or reset: the crypt of the Church of



PLAN OF BRUSSELS SHOWING ITS BOULEVARDS AND PUBLIC BUILDINGS

Anderlecht, now a suburb of Brussels. It stands in the centre of the old market and it is the burial place of S. Guy—the only private inhabitant of Brussels of Charles's time whose name we know.

Because Charles had made Brussels his seat of administration this settlement developed earlier than the other hamlets of Brabant, germs of great cities. Even in his lifetime merchants had settled there for the provisionment of the court, and if Brussels had not yet leapt over the stream which separated it from the mainland, soon after his death that leap was taken, and slowly and tentatively the little town began to creep up the high ground east of the Seine. Presently the court migrated to a new and healthier habitation on the

hill called Coudenberg, where the royal palace now stands; and on a neighbouring height called the hill of S. Michael, Charles's grandson, Lambert Balderic, founded a collegiate church. Early in 1046 that church was dedicated to SS. Michael and Gudule, and on the same day they carried her body there in solemn procession from its former resting-place in the old church of S. Géry, which since the removal of the court had fallen into decay; and Lambert himself tells us that having found that the tomb of his ancestress was in a deplorable state of neglect he caused her relics to be translated to his new church on S. Michael's Hill.

On this spot they were treasured for over five hundred years (in Lambert's

church as long as it stood and afterwards in the church which succeeded it—the present building) until 1579. In that year the men of the new religion were busy purging the land of idols, destroying, that is, works of art, wrecking and plundering wherever they could the temples of the old faith. On the night of June 7 they visited the church of S. Gudule. Among the loot they carried off was her costly shrine—it was of gold studded with jewels.

The foundation stone of the present church of S. Gudule was laid by Lambert II. of Louvain in 1170. This noble structure, the grandest church in Brussels, was built at their own cost by the descendants of the true founder of Brussels to shelter the bones of a saint of their own blood. They adorned it lavishly and lovingly with their own magnificent effigies,

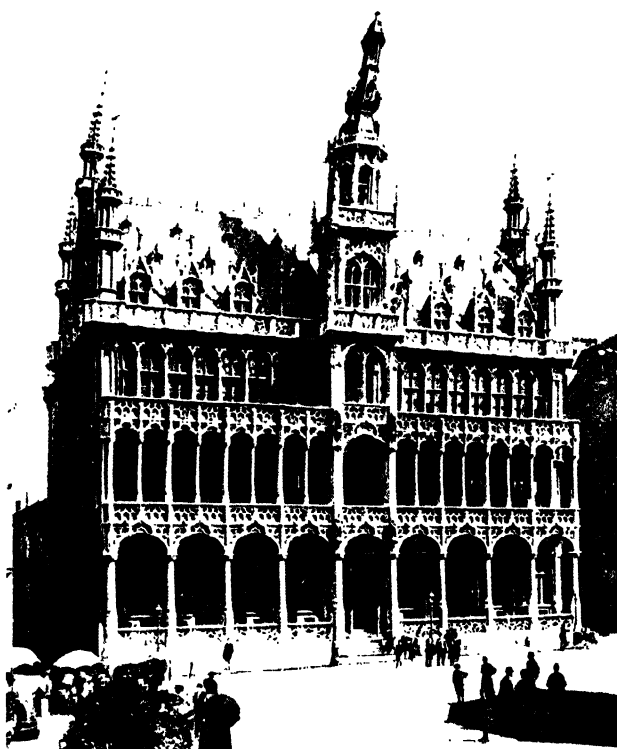
and herein most of them were buried. It is not so much the monument of the men of Brussels—though for more than five hundred years many of them toiled at it—as the family monument of the princes who ruled over them. If you would see the burghers' church, go down into the valley of the Senne, for there, where the Botter Straat leads into the town market, towering above the crazy houses which cluster around its walls and cling to its buttresses, stands the venerable church of S. Nicholas, patron saint of business men, one of the most pleasing of the rare landmarks of old world Brussels.

The life of this church is bound up with the life of the city. It is the cradle of its liberties. Its hopes, its struggles, its victories, its defeats are intimately associated with it. Here the town council used to meet in the days when



BRUSSELS' MAIN STATION IN THE PLACE CHARLES ROGIER

This, the Station du Nord, is the terminus of four lines from Liège, Antwerp, Courtrai and Ostend, and thus the most cosmopolitan spot in the city. For these lines which radiate from the capital communicate with Germany, Holland, France and the boats to England. Two other termini are the Gare du Luxembourg in the Quartier Léopold and the Gare du Midi off the Boulevard de l'Abattoir



BEAUTIFUL BROODHUIS IN THE MARKET-PLACE

Once the hall of the Bakers' Company and used as a place of session for the government authorities the Broodhuis stands opposite the Hôtel de Ville. It was built in 1511-25, restored in 1763 and rebuilt after the original design in 1873.

there was no town-hall. Its steeple was the town belfry and the property of the town—I say advisedly “was,” for it exists no more—and the municipality kept the key; and in a lower storey was the archive chamber, wherein were laid the records and the title deeds, the charters that the town had bought at such great cost of blood and gold. Thrice burnt down and thrice rebuilt, until the close of the seventeen hundreds this ancient tower was the pride and the glory of the men of Brussels, who regarded it as the outward and visible sign of their privileges as citizens and their rights as men.

It was not until the year 1300 that the men of Brussels obtained a town-hall. In that year the city at last purchased from one Odo, a mercer, a house of stone in the Ster Straat, and

in this house of the most houses in those days were of timber—justice was administered and all public business transacted for more than a hundred years, until the present town-hall was built.

The foundation stone was laid in 1402 and the east wing was completed before 1421—the year of the great conflict between the Greater and the Lesser folk—for we know that it was from the gallery over the arcade which skirts this part of the building that Philippe de Saint-Pol (the brother of John IV. and next in the line of succession) used to harangue the mob. For since the reigning duke was an ardent partisan of the masters, of course the heir apparent deemed himself bound to egg on the men. For some reason or other nothing

more was done until March 4, 1444, when the little Count of Charolais (Charles the Bold), then only six years of age, laid the foundation stone of the tower. Five years later Jan Vandenberg was given charge of the building.

This is the first time that we find Vandenberg's name mentioned in the city records in connexion with the town-hall. He pushed on the work so vigorously that in less than five years it was done.

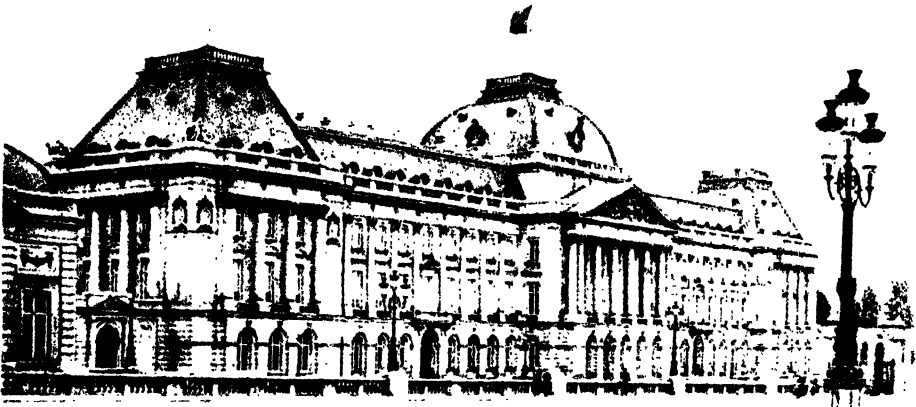
The grand building is said to be the finest piece of civic architecture in the world. In face of it is a building smaller but hardly less beautiful, the old hall of the Bakers' Company, the Broodhuis, which the guide books call La Maison du Roi, although no royal personage ever had anything to do with it. Almost all the churches of Brussels



E. N. A.

SPLENDID HOTEL DE VILLE AND THE MARKET IN THE GRAND' PLACE

Brussels' town-hall can hold its own in point of splendour with any in the Low Countries. The fine arcade looking on to the market-place was begun in 1402 and is 66 yards long, while the tower above it whose summit a giant St. Michael 16 feet high brandishes his blade, is 370 feet above the pavement. Within is a museum containing portraits, tapestry and many statues of burgomasters.



PALAIS DU ROI OVERLOOKING THE PARK ON THE SOUTH SIDE

Donald McLean

This photograph shows the Place des Palais sloping down towards the west beside the great palace whose separate buildings were connected by the central portion and the Corinthian colonnade in 1825. The palace is on the site of the castle where the Spanish governors used to reside. The park, one part of the Forest of Soignies, was laid out in 1774 and is 43 acres in area.



WHERE THE BELGIAN SENATE SITS: THE PALAIS DE LA NATION

On the north side of the park, across which it faces the king's palace, is the Palais de la Nation in the Rue de la Loi or Wetstraat, the Walloon and Flemish names respectively. The place was built in 1783, and has been since 1831 the seat of the Senate and Chamber of Deputies. The pediment with some reliefs by Godecharle is noticeable above its eight columns.



Id. McLeish

PALAIS DE JUSTICE, ONE OF EUROPE'S MIGHTIEST EDIFICES

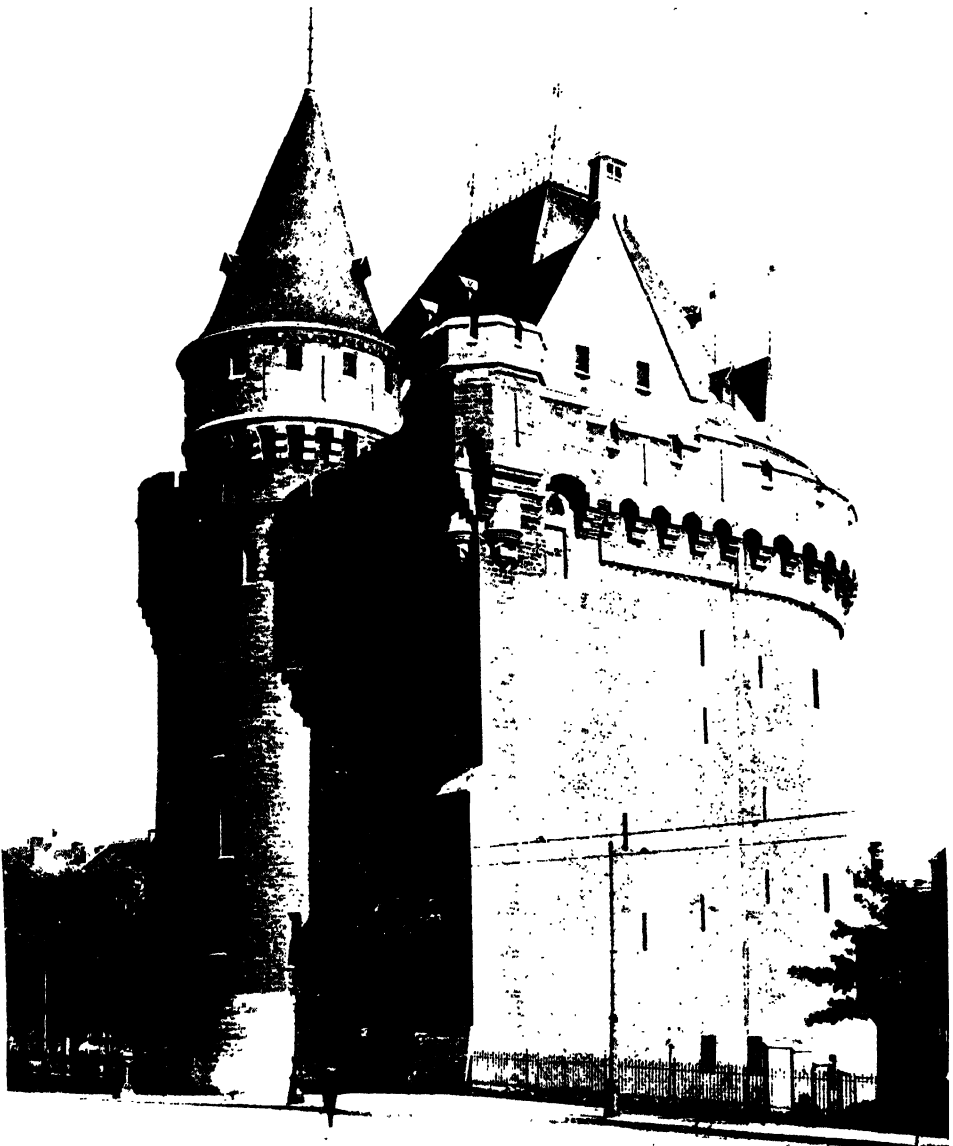
From its site in the Rue des Minimes the Palais de Justice dominates all the city. The architect, Poelaert, adapted certain Assyrian forms in the general construction of this huge place, whose area, 270,000 square feet, exceeds that of St. Peter's at Rome. At the corners of the rectangular structure supporting the dome are figures representing Justice, Clemency, Strength and Law

suffered many things at the hands of the rioters of 1579, but one we know escaped—the Church of Our Lady of Victories, also known as Notre Dame du Sablon, by the Little Sandpits. This huge building, which is 21½ feet long, 121 feet broad, and 60 feet from pave-

ment to vault, was at that time the Oratory of the Great Military Guild of Crossbowmen, the only medieval guild of Brussels which still exists. And, as most of the members were either carpenters or masons, there can be little doubt that it was the work of



HOW THE FOUR HUNDRED FOOT DOME OF THE PALAIS DE JUSTICE SOARS ABOVE BRUSSELS
Imposing as it is from the ground the Palais de Justice is invaluably seen to the best advantage from the air. To the left of the immediate foreground sloping ways that lead down to cover so much of the Rue des Minimes. In a far off Belgium is the broad, curved space of the Place de la Nation. Who can see the Atomium?



PORTE DE HAL, LAST REMNANT OF THE TOWN WALLS

Of the town wall built about 1370 and further fortified in 1530, only this gate remains out of the seven originally piercing it. It stands at the southern extremity of both the Boulevard du Midi and the Boulevard de Waterloo. Boulevard, akin to the English "bulwark," was a word originally applied to a tree bordered walk upon demolished fortifications. The Porte de Hal is now a museum

their own hands. It was covered with beautiful frescoes, rich in wood carving and tapestry and art glories of every sort, and the guildsmen were proud of it. "The rioters seem to have had a special grudge against these men, and with a great oath they had sworn not

only to have their treasure, but to raze their treasure-house to the ground. But when on the appointed night they found it full of stalwart bowmen prepared to defend their property, they made off as fast as they could. The guild retained possession of its



CARVEN PULPIT OF S. GUDULE

The wonderful pulpit, originally in the Jesuit Church, destroyed in 1696. It represents the expulsion of the Jews from the canopy, Our Lady crushes the serpent, the peacock, cock and squirrel symbolise various

the foundation-stone. The great high road from Bruges to Cologne was now an accomplished fact and Brussels had already become an important commercial and industrial centre; wool was the staple industry and there was a large population of working folk - weavers, fullers, dyers and such like. The district in which S. Mary's stands has always been a poor one; and when the church was built (and for more than three hundred years afterwards) it was a foul region of garbage and stinks.

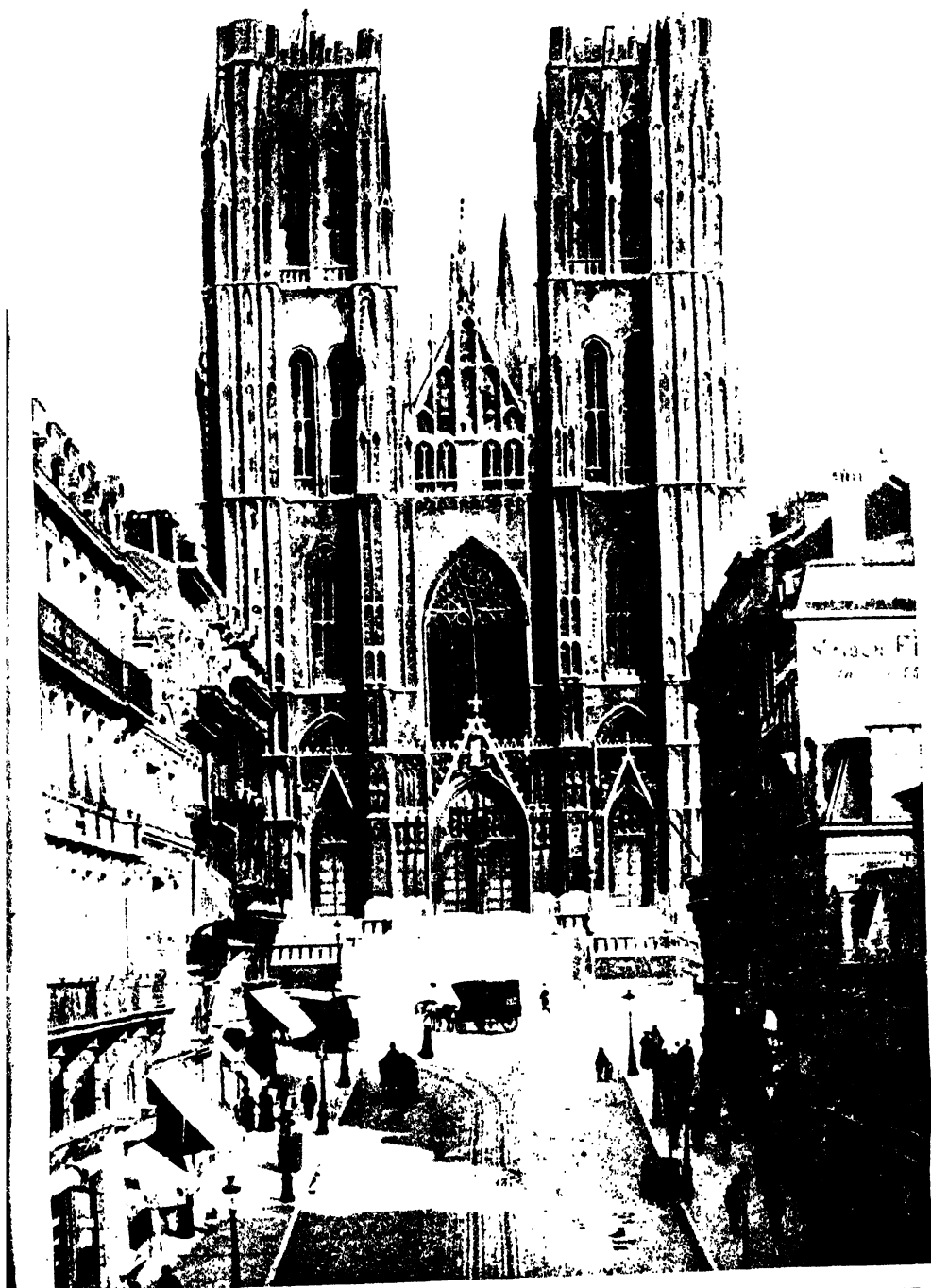
In those days this stately structure was surrounded by the huts of turf and straw which the weavers called their homes; fires were frequent then, and in the great fire of 1405, which licked up fourteen hundred of these foul hovels,

church and continued to administer its large revenue through a committee of four of its members who were appointed each year for that purpose until 1795. And then the French came. And when after twenty years of ignominy and impotence the men of the Low Countries were at last rid of them, the old order of things was dead, and the Bowmen's Oratory became what it still is—a parish church.

More important from an architectural point of view than the church of S. Nicholas, and from its associations hardly less interesting, is the beautiful church of S. Mary in the Rue Haute, commonly called Notre Dame de la Chapelle. We know the date of its foundation—1134; and that Godfrey Longbeard, first duke of Brabant, laid

the old sanctuary wherein so many generations of downtrodden and embittered men had poured forth their woes and their grievances was all but burnt down. The choir and transepts were not so injured as to be past repair, but the nave, the aisles and the tower were wholly destroyed, and it was decided to rebuild them in such a fashion that the poor man's church should be second to none in the city.

For more than fifty years they laboured at it, and when at last the work was finished, not even the great collegiate church of S. Michael and S. Gudule was more lovely than the chapel in the weavers' quarter. S. Gudule's was, of course, larger than the church of Our Lady, but the difference in size of the two buildings was not so great in those days as it is now. S. Gudule's



TOWERS OF THE CHURCH OF S. GUDULE FROM THE RUE DE LA MONTAGNE
 Looking up the Rue S. Gudule from its junction with the Rue de la Montagne one sees across the Place S. Gudule the fine expanse of steps and the belfry of the west end. The church is dedicated to S. Michael and to the tutelary saint of Brussels, and was begun about the year 1220. The interior measures 165 feet broad by 354 feet long



FOUNTAIN STATUE OF BRUSSELS HEROES

Philip de Montmorency Count of Horn and Lamoral Count of Egmont are among the great Belgian patriots. They were beheaded June 5, 1568, for resisting the introduction of the Inquisition during the Spanish domination of the Netherland

has waxed both in size and beauty since then, and S. Mary's has waned. Villeroi shattered the spire in 1695, and some forty years before two very beautiful side chapels in the north of the chancel were made into one, which is not so beautiful.

This church and the Bowmen's Church were both built during the long peace of thirty years which followed the treaty of Arras (signed on September 21, 1435). It was then that the art of the Low Countries reached the zenith of its magnificence, it was then that the architects and painters and craftsmen of Brabant became unrivalled in the abundance and the quality of their work, that each day saw some great building completed or the foundation of some grand

monument laid. Brussels was now the common capital of all the province of the Netherlands and richer and more prosperous than it had ever been before; and by the end of the century it had become the most splendid city in northern Europe.

And what to-day of all this splendour? Now it is all gone. When the French laid siege to Brussels in 1695 the city was blotted out by the great fire which their guns ignited: the Grand' Place was shattered, and seventeen guild halls, fourteen churches and no fewer than 4,000 houses were burnt to the ground, and most of the other buildings damaged beyond hope of repair. "Sheer wanton devilry," notes a writer who witnessed the conflagration. "But in two years' time," he continues, "the city had risen from its

ashes more beautiful than ever." Hardly so, but still the men of Brussels had reason to be proud of their achievement—the twelve guild houses in the Grand' Place date from this period.

Brussels is now a great modern city with a population (including the eight district communes which make up its faubourgs) of something like 700,000 souls. It is a clean, well-kept town, very bright and gay; the shops are all good, the inns comfortable, and the restaurants all that can be desired, and in no other town which I know are there so many excellent cooks.

The Place Royale is said to be the grandest modern square in Europe, and perhaps it is. The boulevards are much admired: the Bois de la Cambre, outside the city, merging into that

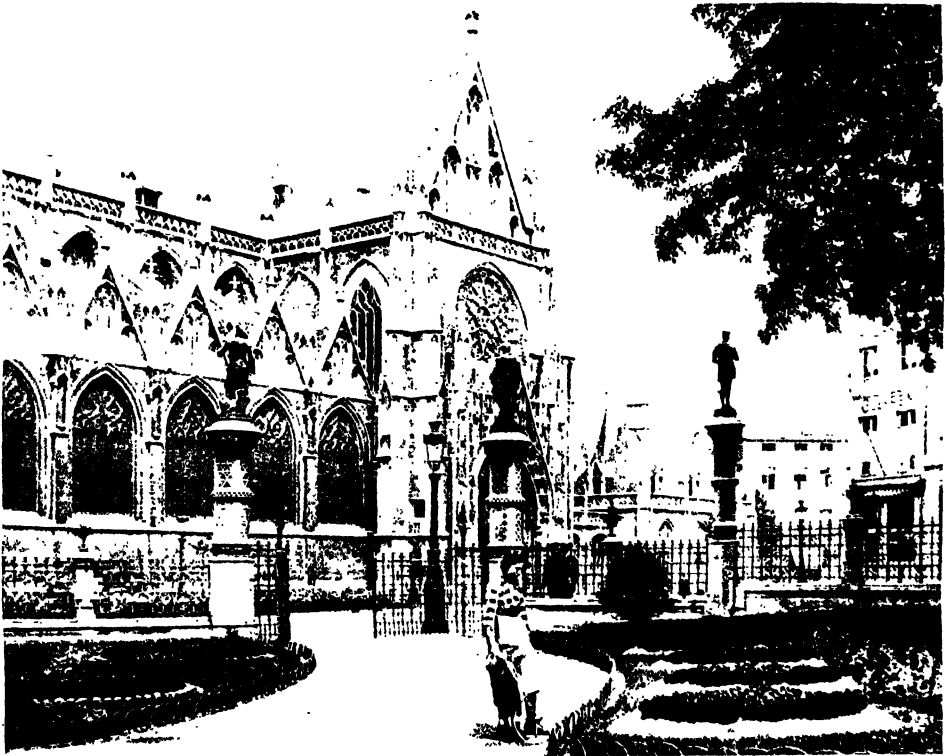
weird forest of *Soignies* which covers at least 20 square miles, is altogether beautiful, and the old beech trees there are magnificent, and so, too, are the elms in the park.

There are sixteen parish churches in Brussels, monks and friars of all sorts abound, and there are no less than eighty convents of women who devote themselves for the most part to educational and charitable work. There are two great hospitals—S. Peter's, founded in 1175, and S. John's, twenty years later - and they contain between them about 1,500 beds; also eleven hospices for the aged, the needy and the mad, and twenty-seven other institutions for the care of the sick.

The University of Brussels was founded in 1834. It is housed in the old palace once occupied by Philip II.'s famous minister, Cardinal Granvelle. It

has faculties of philosophy, the exact sciences, jurisprudence and medicine, and before the Great War it was frequented by more than 1,000 students. In the Palais des Beaux Arts there is a wonderful collection of Flemish Primitives, which includes with many others the S. Anne Triptych by Quinten Massys, signed on the third panel, "Quinte Metsys Schreef dit 1509" undoubtedly his masterpiece; that pathetic "Calvary," so long attributed to Roger Van der Weyden but in reality painted by his pupil, Zanetto Bugatto of Milan; and the portrait of Georges Zelle, one of Bernard van Onley's signed pictures and without question his best.

The modern Palais de Justice (Law Courts) is said to be the largest architectural work of the eighteen hundreds. It is indeed a colossal and stupendous structure. It lies on a massive basis that



Donald McLeish

'PLACE DU PETIT SABLON AND THE CHURCH OF NOTRE DAME

This pleasant garden was laid out in 1888 and its flower-grown space serves to show off the fine sixteenth century church behind. The statues on pillars are representative of the old artistic and industrial guilds. The church, Notre Dame du Sablon or des Victoires, has some fine stained glass, notably that in the lancet windows of the fifteenth century



Realistic Travels

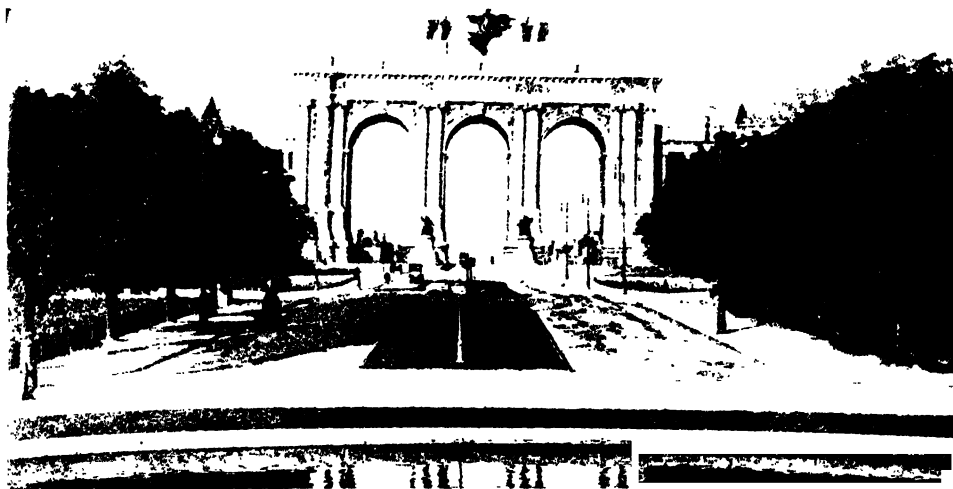
CORINTHIAN COLUMNS OF THE BOURSE, BRUSSELS' EXCHANGE

Built in 1874 the Bourse stands imposingly in the Place de la Bourse, a little north-west of the Grand' Place. The building, from the streets, presents a lavishly decorated mass, with much statuary and relief work. In the pediment is a group representing Belgium in concert with Industry and Commerce, and inside is a fine cruciform hall roofed with a dome 150 feet high.

measures 500 feet by 560 and looks in the distance like some vast Egyptian or Assyrian temple, but the guide books say it is in the classical style. When it was first put up the men of Brussels were very proud of this great building, but they are not so pleased with it now.

Brussels is now connected with the Sambre by the Charleroi Canal and with the Schelde at Antwerp by the Willebroeck Canal, which passes by Mechlin and is destined to justify the title of "seaport" which the city has borne since 1895. By these waterways and the network of state railways, most efficient and very cheap, the surplus of whose revenue before the Great War was more than enough to cover the whole of the interest of the national debt, the trade and industries of Brussels are favoured exceedingly.

These include printing, the founding of type and everything to do with the making of books; brewing, a most profitable trade, for the men of Brussels and of the Netherlands generally are as copious drinkers of malt liquor as their kinsmen beyond the Rhine; the distilling of strong waters, a trade nearly as profitable as the brewers' business; the refining of sugar; the manufacture of lace, a very old industry; and of steam engines and linen, but not of carpets--the famous Brussels carpets are all made in Tournai. The men of Brussels are all of them Flemish, and Flemish is the language most spoken in the town, but the upper classes can speak French and in the old weavers' quarter a curious mongrel tongue is spoken which seems to be a mixture of Flemish and Walloon.



TRIUMPHAL ARCH OF THE PALAIS DU CINQUANTIÈRE

Going east through the Quartier Léopold, the visitor arrives at a fine stretch of greenery, the Parc du Cinquantième, 75 acres in extent. On the farther side is the palace, erected in 1870 for the purposes of an exhibition, but for many years left uncompleted. The triumphal arch joins the two wings of the main building and a fine carriage way runs beneath it.



Donald McLeish

HOTEL DE VILLE FROM THE GARDEN OF THE MONTAGNE DE LA COUR

From the terraced garden, with its statuary and shrubs, that lies between the Montagne de la Cour and the Rue de la Madeleine a fine view of the noble spire of the town hall is to be had, and to the right the towers and pinnacles that beset the sky in any vista of Brussels may be discerned over the roofs. Near by is the University on one hand and the Royal Museum on the other.

the cause may be the men of Brussels, like all continentals, have the healthy habit of consuming their victuals and drink, and especially their drink, in the open air whenever the weather permits, and this gives a gay appearance to the business quarter of the town at the hour of the mid-day meal (from 12 to 2) and in the evening after six (the hour of dinner) and onwards till midnight. Another reason why Englishmen often speak of Brussels as "a gay little city" is that the inhabitants, like all peoples of purely Teutonic origin, love music. They have also louder voices and drink more, and therefore there is more and louder laughter



Belgian State Rail

COLONNE DU CONGRES

Off the Rue Royale by the park is the Place du Congrès, containing the pillar, 154 feet high, beneath which is buried Belgium's "Soldat inconnu"

The people of Brussels live much more in the streets than do the men of London or of any other English town with which I am acquainted. But this is not peculiar to Brussels; we find the same thing in all Continental cities—why, I do not know; climate has nothing to do with it, for in many of these towns the weather is much worse than English weather. But whatever



Donald McLeish

GODFREY DE BOUILLON

He led a detachment to the first Crusade in 1096 and became first Advocate of the Holy Sepulchre. This statue to him stands in the Place Royale

BUDAPEST

River Port & Capital of Hungary

by Walter Jerrold

Author of "The Danube," etc.

WITH a population not far short of one million and a quarter the capital of the republic of Hungary is a city of which any country might be justifiably proud. Yet, owing partly to its geographical and partly to its ethnographical position it is, though of ancient foundation, very largely a city of modern buildings.

Long the most populous centre in what were termed the frontier lands of the Christian and the Turk it suffered much from constant warfare, while the alternating occupancy of opposing peoples meant, as each change was brought about, the more or less inevitable destruction of much of the work of the superseded. The position of the two towns, Buda and Pest, which in 1873, were combined into the one city of Budapest, on the banks of the great Danube about the mid-part of its course also in a measure militated against such gradual growth as is manifested in most of the great European capitals; for hereabouts the left bank is the western edge of the great Hungarian plain and occasionally when winter came to an end in central Europe the flood water of the Danube, held up by natural dams formed of broken ice, swept over the left bank and flooded with disastrous results the low-lying tract on part of which Pest was built.

Flood with Blessings in its Train

Yet the floods which destroyed the old town may be said to have been the occasion for the building of the fine new city. Thus in March, 1838, there was an ice-jam on the Danube followed by such sudden flood as practically destroyed the town—for of Pest's 4,255 houses but 1,147 were left intact, while

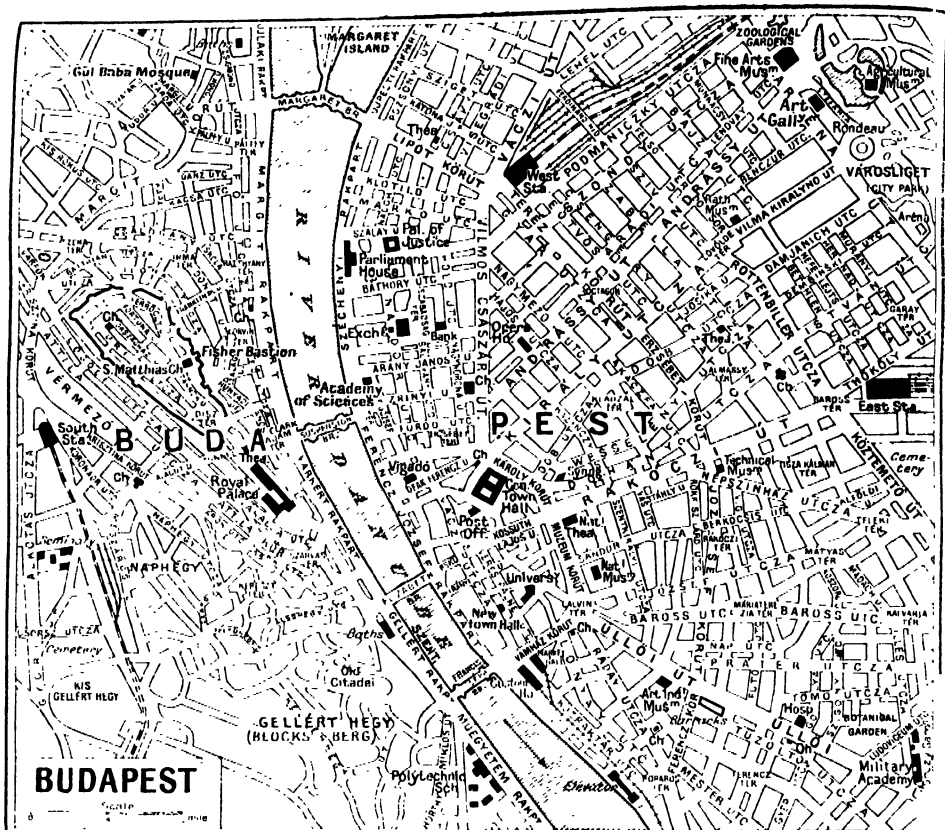
a thousand of the inhabitants lost their lives. Let into a wall in Kossuth Utcza (Louis Kossuth Street) there is a fine sculptured relief depicting Baron Nicholas Wesselenyi engaged in the work, in which he distinguished himself, of rescuing people from almost submerged houses.

Enchanting Vision from the Danube

From that disaster modern Pest may be said to have risen; its broad streets roughly radiating from the river front and their connecting "Rings" were boldly planned, and the new stone buildings erected with such solidity as seemed in defiance of flood. It is hoped that modern engineering and embanking have removed the danger of anything in the nature of a repetition of the disaster indicated.

If it may be said of places as of people that first impressions are likely to be the most abiding, then those visitors to the Hungarian capital may be counted most fortunate who first reach the city from the north and by way of the Danube. Especially is this so if the arrival is in the early hours of the evening when the sunset colouring is still filling the sky behind and above Buda and the hills on the right bank, and lights are beginning to twinkle in Pest, the main part of the twin city which extends along and far inland from the flat left or eastern bank.

It offers then a first impression of unforgettable beauty, and one in striking contrast with that received from the more ordinary approach by railway. The patriotic Magyar will, indeed, claim that his city is the most beautiful of all European capitals, and though the considered opinion of one who knew



TWIN TOWNS OF BUDA AND PEST DIVIDED BY THE DANUBE

them all might not bear out that boast, it would be easy to acquiesce in it immediately on landing from the boat that has brought us hither past the park-like Margaret Island, along by the wonderfully beautiful river-side stretch of the Parliament buildings, its graceful spires rising about a central dome, and landed us at a quay affording an unforgettable view across the river.

As our boat is moored alongside, the scene on the farther bank inevitably draws and holds the attention. There the fine, far-reaching range of the Royal Palace built in the reign of Maria Teresa crowns the hill rising above terraced greenery of shrubs and trees that afford a fine setting for the grand buildings, while farther down stream rises the height of Gellért Hegy.

Variants of that first memorable view which greets the visitor arriving on the river may be had from one or other

of the six bridges that connect the two parts of the city. Looking down stream from the centre of the curiously tripartite Margaret Bridge, connecting the two banks and the southern end of Margaret Island, we get much the same view as that which welcomes us if we reach the city by water. Not less delightful is the view which is to be had from the next bridge—that famous suspension bridge which, built by an English engineer, William Tierney Clark (1830-1849), was the first to span the Danube here and is noted as one of the longest suspension bridges in Europe (1,227 feet). Here the bank on the west side rises more or less abruptly to the magnificent many-windowed and columned palace with its burnished dome; and to the beautiful spire of the ancient church of S. Matthias, rising beyond the walls, terraces, and conical turrets of the Halászbastya or

Fishermen's Bastion. Up stream, a mile or so distant, are to be seen the trees of Margaret Island, while down stream about half a mile away is the graceful Elizabeth Bridge, passing where the Danube is at its narrowest in a single span, unlike the other bridges which are on massive piers.

The position of Budapest on the mid-part of Europe's greatest river is, indeed, a peculiarly fine one; as a recent visitor has happily put it: "If the site of cities could make men happy then the people of Budapest would be thrice blessed." Some distance to the north the Danube, after breaking through an outlying spur of the northern Carpathians, sweeps due south and then south-easterly for about 300 miles, and so borders the western side of what has long been termed the great Hungarian Plain, until it turns eastward once again where it reaches the hill on which is set the old Serbian capital of Belgrade. About 20 miles

below the point at which that southward sweep of the great river begins, its somewhat narrowed stream divides the two parts of the Hungarian capital.

Though to-day Budapest is one great bridge-linked city, it was for centuries two river-sundered towns; the older Buda on the hilly western or right bank and Pest on the low-lying left bank, subject to occasional inundation from the mighty river to which it owed its existence, and to irruption from barbaric hordes from the east. Tartar raiders and Turkish conquerors were among destructive rather than constructive agents, and for the most part the place, as we know it, dates only from the latter part of the eighteenth century.

It is, indeed, a grand modern city that we see now with comparatively little to show of its storied past and little evidence indeed of the fact that as the Hungarian capital it was long regarded by Westerners as a kind of outpost of the Orient. The long



ELIZABETH SUSPENSION BRIDGE UNITING PEST AND BUDA

The Elizabeth Bridge, designed in the Royal Hungarian Ministry of Commerce, is an indisputable masterpiece of engineering genius. One mighty span, with a well proportioned archway at either end, is flung across the whole breadth of the Danube, here measuring some 317 yards, and connects the bustling city of Pest on the left bank with the less noisy quarters of Buda on the right



SURVEY OVER THE NORTH END OF BUDAPEST WITH THE LOVELY MARGARET ISLAND IN THE DISTANCE

Budapest is not only the political but the commercial and industrial centre of Hungary. Its industries include flour-milling, brewing, distilling, engineering, ship-building and the manufacture of wine, glass, tobacco, china, carriages, leather and fancy goods, and it is to the Danube that Budapest is indebted for the importance of its trade as well as for the beauty of its situation. In the middle Margaret Island, lying halfway between the banks of the river, is one of the most delightful and most frequented of the city's parks. Since 1900 it has been connected with the bridge, and its most delightful and most frequented of the city's parks.

BUDAPEST



GENERAL VIEW OF THE DOUBLE CITY OF BUDA AND PEST, THE METROPOLIS OF THE REPUBLIC OF HUNGARY

The city of Budapest, the capital of Hungary, really consists of two parts, Buda and Pest, incorporated into one city in 1873; they are separated by the broad Danube and connected with each other by six fine bridges. This beautiful metropolis has experienced many trials and vicissitudes and witnessed innumerable historic events. A scene of panoramic splendour, with a wealth of architectural beauty and in the background the many-hued hills dotted with villas, spreads before the traveller long before he enters the heart of the town, and its magnificent situation entitles Budapest to a proud place among the finest cities of the world.

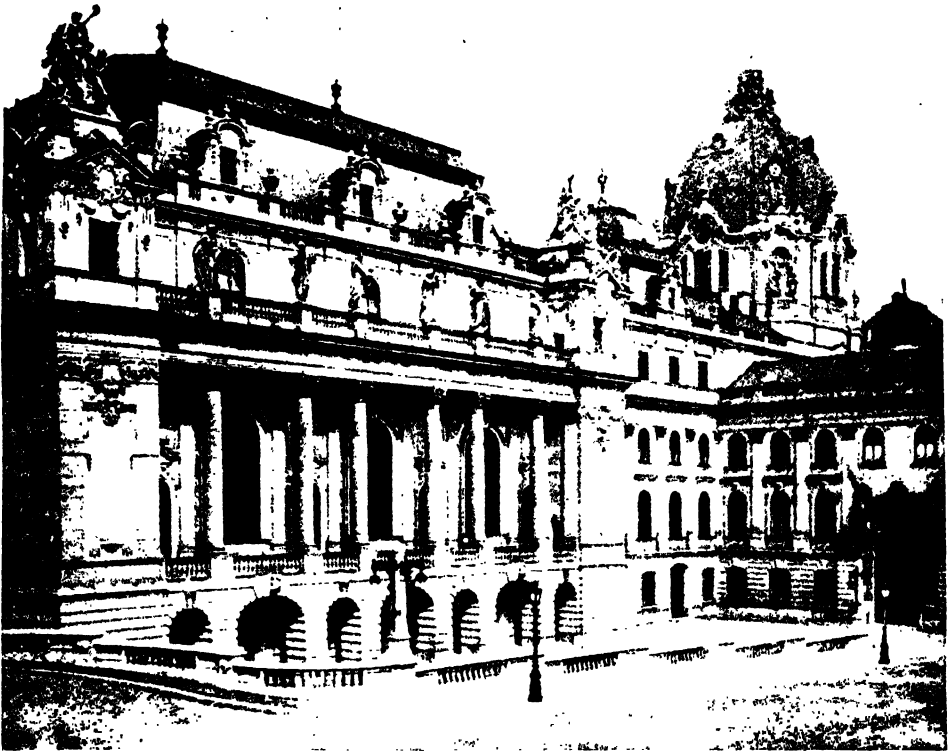


OVERLOOKING THE CENTRAL MARKET-PLACE, WITH A GLIMPSE OF THE CUSTOMS HOUSE ON THE RIGHT
 At the south end of the Francis Joseph Quays, facing the spacious Central Market, stands the Customs House erected in 1870-74 by the famous Hungarian architect, Ybl, in the Renaissance style. Directly beside it is the Central Market Hall, flanked by the Vánház Körút, a boulevard which leads to the Francis Joseph Bridge

Turkish occupation from which the twin towns suffered seems to have left a more abiding mark on the language of the citizens than on the city itself. There is but one building dating back to the time of the Turkish occupation (which came to an end in 1686), and that is a small octagonal mosque over the grave of the Turkish saint, Sheik Gul Baba, which is situated on a hill at the north end of Buda.

The fine Budapest quays, forming embankments some three miles long on each side of the river, afford scenes at once varied, impressive, beautiful and interesting; these quays (Rakpart in Hungarian) stretch through the city along the main river fronts on both sides and permit of such striking views across and along the busy waterway that it is not surprising to find them largely used as promenades by the populace, as well as for the daily business in connexion with the loading and unloading of the river craft. From above the Margaret Bridge, leading to that large and pleasant island on which the inhabitants of Budapest take their pleasures brightly, right through the city these quays extend under various names. On the east side they take us past the beautiful Parliament buildings and successive fine blocks of public edifices, including a large range of offices named after the Elizabethan Englishman, Sir Thomas Gresham, and so on to great hotels and warehouses and the great grain elevator typifying the position of Budapest as the most considerable of European granaries. When working at its greatest capacity it is the world's chief milling centre after Minneapolis.

Alongside the quays may be seen the variedly picturesque barges employed for the transport of grain and other merchandise over the long river distances of the country. Some of these long roofed river craft have high, curved, carved and brightly coloured prows. A crowd of idlers finds perennial fascination in watching the busy men, stripped to the waist and browner



PORTION OF THE ROYAL PALACE IN BUDAPEST

Seen in its entirety, crowning the steep Castle Hill and commanding a magnificent view of Buda and Pest, the Royal Palace is an imposing structure and one of the most stately princely palaces in Europe. It was erected by Maria Teresa in 1748-71, partly burnt down in 1849, and has within recent times been enlarged and improved. It contains many features of great beauty

with exposure to the sun than the ripened grain which they bring up in great measures from the spilt of it in the body of the barge to be sacked and loaded on to waiting wagons. Many of the barges have high-pitched sterns with small, gaily-painted houses for the steersman and his family thereon, and tiny "gardens" of plants set out in boxes and tubs.

It matters not at what time the quays are visited, they are always alive with the commercial activity on the river, the arrival of passenger steamers from distant places up and down the Danube, and in the afternoon with sauntering crowds of promenaders; while always, whether in the bright morning, under the glow of a gorgeous sunset or at night when it is starred with a myriad points of light, the opposite bank is freshly pleasing and

it is not surprising to find that it exercises a lasting fascination over the city-proud inhabitants of Budapest.

The Danube plays so important a part both in the life of Budapest and in the city as a scenic centre, that it is tempting to linger about its quays both when there and in retrospect. If we cross Francis Joseph Bridge, the one south of the Elizabeth Bridge, we reach the western bank near the southern slope of the Gellért Hegy (mountain) from the summit of which is to be obtained an extensive view over the two parts of the city and some miles of the course of the Danube.

This hill, some 400 feet in height, was surmounted by the ancient citadel and its slopes were long cultivated as vineyards. Immediately to the north of it is the extensive Royal Palace crowning the summit of a lower

hill, with the broad quayside between it and the river and steep ways leading up, in places by long flights of steps. Though the Castle Hill is but 230 feet high there is a funicular railway by which the more abrupt ascent may be made. Whether reached by this mechanical means or by the climbing streets it again offers the reward of a beautiful view from its stately terrace over the river to the Parliament buildings and the eastern half of the city, and upstream to the Margaret Bridge, the massed trees of the island and, beyond, greenery and the dim hills.

It has been said by one much-travelled writer that few city views are more beautiful than those that are to be obtained from the various high points attainable in these older parts of the city of Budapest. From some of the bays and openings in the upper part of the Halaszbastya (Fishermen's Bastion) and the lower steps and terraces of its massive stonework, are

to be obtained again some wonderfully picturesque "bits" across the stream. Above this bastion rises the highly decorated tower and crocketed spire of the wonderfully beautiful Gothic cathedral church of S. Matthias, at one time the scene of the coronation of Hungary's kings—where, indeed, Francis Joseph was crowned as King of Hungary in the year 1867.

Returning from the older part of the city to the eastern bank and leaving the immediate neighbourhood of the river we shall find a commercial city of wonderfully vigorous modern growth, the rapid development of which during the second half of the nineteenth century and the earlier years of the twentieth took place when Hungary was the predominant commercial partner in the Austro-Hungarian empire and its capital the main entrepot for the trade of south-eastern Europe. A little way inland from the central part of the quays near the fine Central Town Hall



TWIN CLOTILD "PALACES" NEAR THE ELIZABETH BRIDGE

From the Elizabeth Bridge, the high archways of which are seen in the central background, the *Uj kút* (Oak Road), runs into Louis Kossuth Street. Palatial-looking buildings are seen on her side, prominent among which are the twin Clotild "Palaces" designed by Korb and Giergl, stately, finely-planned structures each embellished with a decorative tower



MEDIEVAL CHURCH OF S. MATTHIAS IN THE OLDEST PART OF BUDA

In Trinity Square, on the Castle Hill, rises one of the most ornamental buildings in the capital - the ancient Coronation Church of S. Matthias, where King Francis Joseph and Queen Elizabeth were crowned in 1867. It was begun by King Bela IV. in the thirteenth century, and completed in Gothic style in the fifteenth. During the Turkish domination the stately facade was used as a mosque

is the first of the "ring" streets from which the chief broad thoroughfares radiate, to be linked by other "rings." The disastrous flood which has been referred to allowed of a definite plan to be followed in the rebuilding, and the result is certainly impressive.

The broad, radiating streets are bordered, to a considerable extent, by

handsome stone buildings, and Budapest was bidding fair to become a city of palaces - palaces of art and education, palaces of business and industry. The Great War, however, left the city the capital of a state greatly diminished in size and importance. Post-war troubles, too, affected Budapest, and it was for a time a centre of Bolshevik energies.



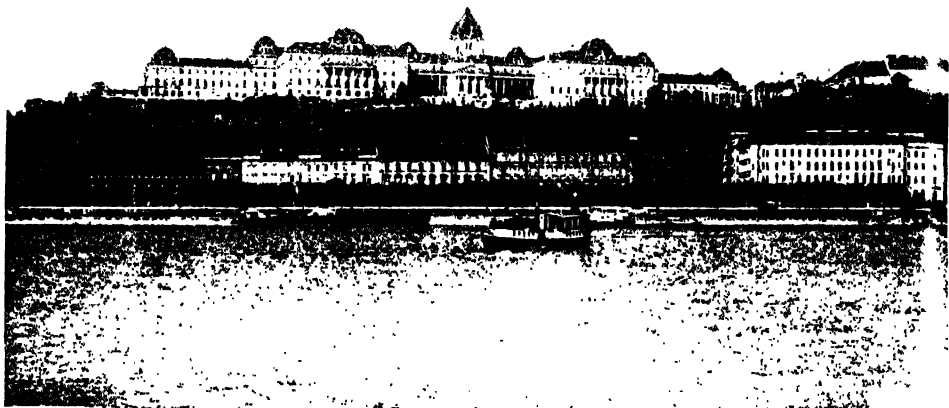
KEREPESEK STREET, SHOWING THE PEOPLE'S THEATRE, ONE OF THE FOREMOST HUNGARIAN PLAYHOUSES

In Hungary great importance is attached to drama and to music as educational ad uncts, and both arts have attained a high level of excellence in the country. Numerous playhouses enjoy subventions from the Government, and the people's theatres are better known than the National Theatre, a famous play-house founded in 1885 as the result of the efforts of the celebrated actor, Csiky Zoltan.



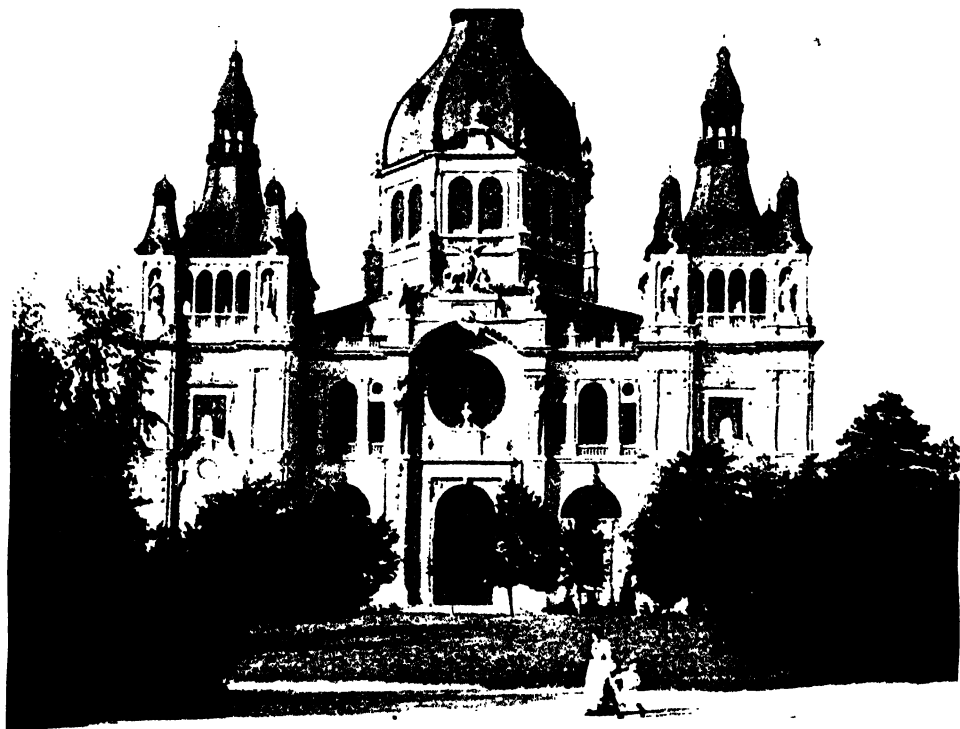
DISTANT VIEW OF THE CITADEL OF THE GELLERT HEGY SEEN FROM THE FRANCIS JOSEPH QUAY

Strategically Budapest is the key of the middle Danube, being the converging point of numerous railways and river routes, and has an extensive river traffic. The Francis Joseph Quay extends for one mile and a half along the left bank of the Danube between the Suspension Bridge and the Francis Joseph Bridge. It contains several fashionable cafés and is a popular summer promenade of the élite world in Pest, chiefly owing to the striking views to be had from it. Across the water may be seen Mount Gellért, 400 feet high, above whose precipitous slopes the enormous stone walls of a dismantled citadel are silhouetted against the sky.



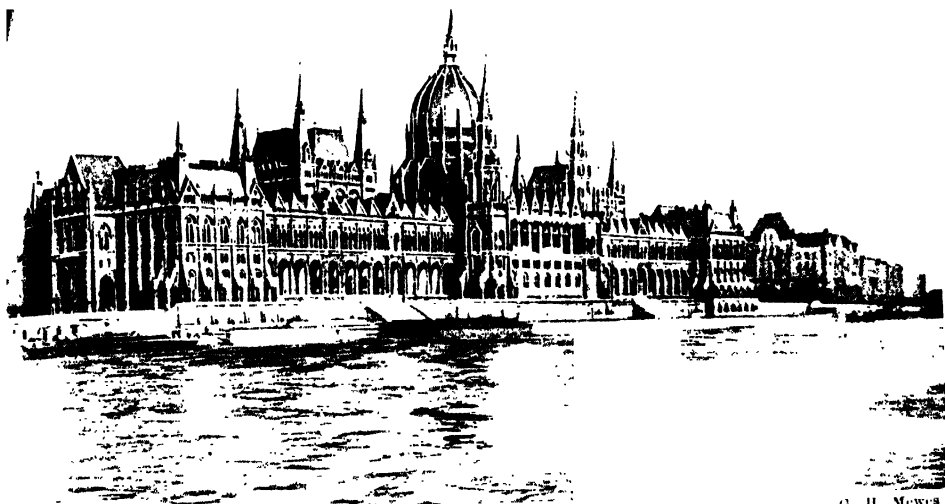
CHIEF AMONG THE SECULAR BUILDINGS OF BUDAPEST

On the right bank of the Danube lies the most ancient part of Budapest, and perhaps the most picturesque to behold, for while Pest is flat and spread out in fan fashion from the Belváros or inner city, Buda is scattered about a series of hills. The Royal Palace, seen above, crowns an eminence 250 feet high, on and around which the town of Buda is built.



TRAFFIC MUSEUM, A REMARKABLE INSTITUTION IN THE CITY PARK

Known as the Traffic Museum, this fine structure, a relic of the Millennium Exhibition of 1896, stands in the City Park, a lovely stretch of land in the immediate environs of Budapest; with its superb flowers and well-kept lawns and avenues it is the special property of the capital. The museum contains peculiarly rich and valuable collections of objects illustrative of the railway and shipping service.



G. H. Mewes

PARLIAMENT HOUSE, FINEST STRUCTURAL PILE ON THE EMBANKMENT

This huge limestone edifice in the late Gothic style was completed in 1906 and covers an area of three acres and three-quarters. The Hungarians may be justly proud of their Parliament House, and, as a writer says, "the majestic proportions of the exterior and its stern grandeur make it a worthy home of the legislature of a nation that can boast a constitution a thousand years old."



E. N. A.

WESTERN RAILWAY TERMINUS ON THE TERESA BOULEVARD

As the capital of the Hungarian Republic, Budapest forms the nucleus of a network of railways connected with all parts of its territory and with many large towns of foreign countries. There are three principal railway termini for passenger traffic in the city—the Nyugati or Western Terminus, which is illustrated in the photograph above, the Keleti or Eastern and the Deli or Southern



VISTA OF THE ANDRÁSSY UT, BUDAPEST'S PRINCIPAL HIGHWAY

Andrássy Street, or Andrássy Ut, the handsomest street in the capital, is in the Teresa Town of Pest. It is flanked by splendid houses, including the Opera House, an impressive building in the Italian Renaissance style; this street is one mile and a half long and beyond the Octagon, or Circus, widens considerably and contains a shady promenade and separate roads for riding, driving and heavy traffic.

027



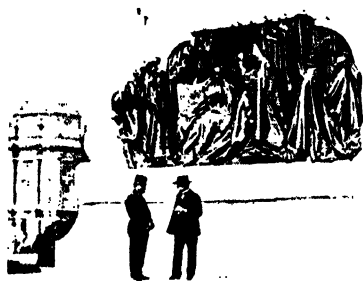
CHARACTERISTIC THOROUGHFARE IN THE HUNGARIAN METROPOLIS

streets of Budapest, whether in Buda the older and more venerable part, or in Pest the more prosperous and businesslike, are well-paved, cleanly and attractively and usually fringed by shady trees. They can compare favourably with the thoroughfares of any European city, and apart from noteworthy edifices there are many pleasing features worthy of a modern and well-developed capital.



EVERYDAY LIFE IN A POPULAR BOULEVARD OF BUDAPEST

The Elizabeth Boulevard, or Erzsébet Körút, is a pleasant street branching off from the Király Utcza, or King's Street, one of the busiest thoroughfares of the capital. The former is flanked by many private buildings of handsome appearance, among which the most imposing was designed by Hauszmann and belongs to the New York Life Insurance Company, its graceful tower being seen on the right.



STATUE OF A GREAT HUNGARIAN STATESMAN

This bronze equestrian statue of Count Julius Andrássy stands before the southern front of the Houses of Parliament in Budapest. The relief represents the coronation of Francis Joseph, as King of Hungary, on the formation of the Dual Monarchy in 1867.

The many museums in Budapest call for particular mention as representing a notable characteristic of its citizens, for ever since the Magyar awakening of a century or so ago there has been a marked and generally sustained interest in all matters designed to help forward the education and culture of the people. When the project for establishing and improving the Hungarian language—Latin was used by the educated classes up to within a century ago—was mooted in Parliament it was said that there was no money available. One member, Stephen Széchenyi, said he would contribute a year's income (about £6,000); his example was followed, and the fine Renaissance Academy of Sciences is the monument to such patriotism.

Budapest proved worthy of that be-
 ginning, and its museums, academies and
 educational establishments generally

are objects of pride to the
 citizens. (The city, it
 may be noted, denies
 a municipal vote to those
 who are unable to read
 and write.) Besides the
 handsome National
 Museum, in the Greek
 style, there are Industrial,
 Technical, Agricultural
 and Fine Arts Museums,
 a fine National Theatre
 and an Opera House that
 has been called one of the
 handsomest in Europe.

Although the style of
 architecture may range
 from the Greek to the
 Gothic of the House of
 Parliament, and from the
 Gothic to the Renaissance
 and modern American,
 the general impression of
 the public buildings is one
 of the massive substan-
 tiality of stone, but
 frequently with the sky-
 line broken either with
 small domes and spires,
 or with statues and
 balustrades as in the

case of the Opera House, or with short
 decorative towers as in the beautiful
 Exchange that stands on the garden-like
 Szabadság Tér (Liberty Place). The
 chief streets are well planted with
 trees, as though the beautiful and
 extensive Városliget (City Park) had
 spread along the highways.

The Budapestian will claim that his
 city has again and again been a pioneer
 in civic amenities; here, it is said, arc
 lamps were first used to light the
 streets; here the first electric under-
 ground railway was run; and here
 the conduit system for electric tram-
 ways was first employed.

The chief industry of Budapest has
 long been that connected with its flour
 mills. The making of wine and spirits,
 tobacco, sugar, glass and china is also of
 importance, but its industries have not
 quite recovered from the Great War.



BUDAPEST. *With its myriad charms the City Park, laid out in 1797 and covering some 286 acres, is a favourite resort of young and old*

H. N. A.



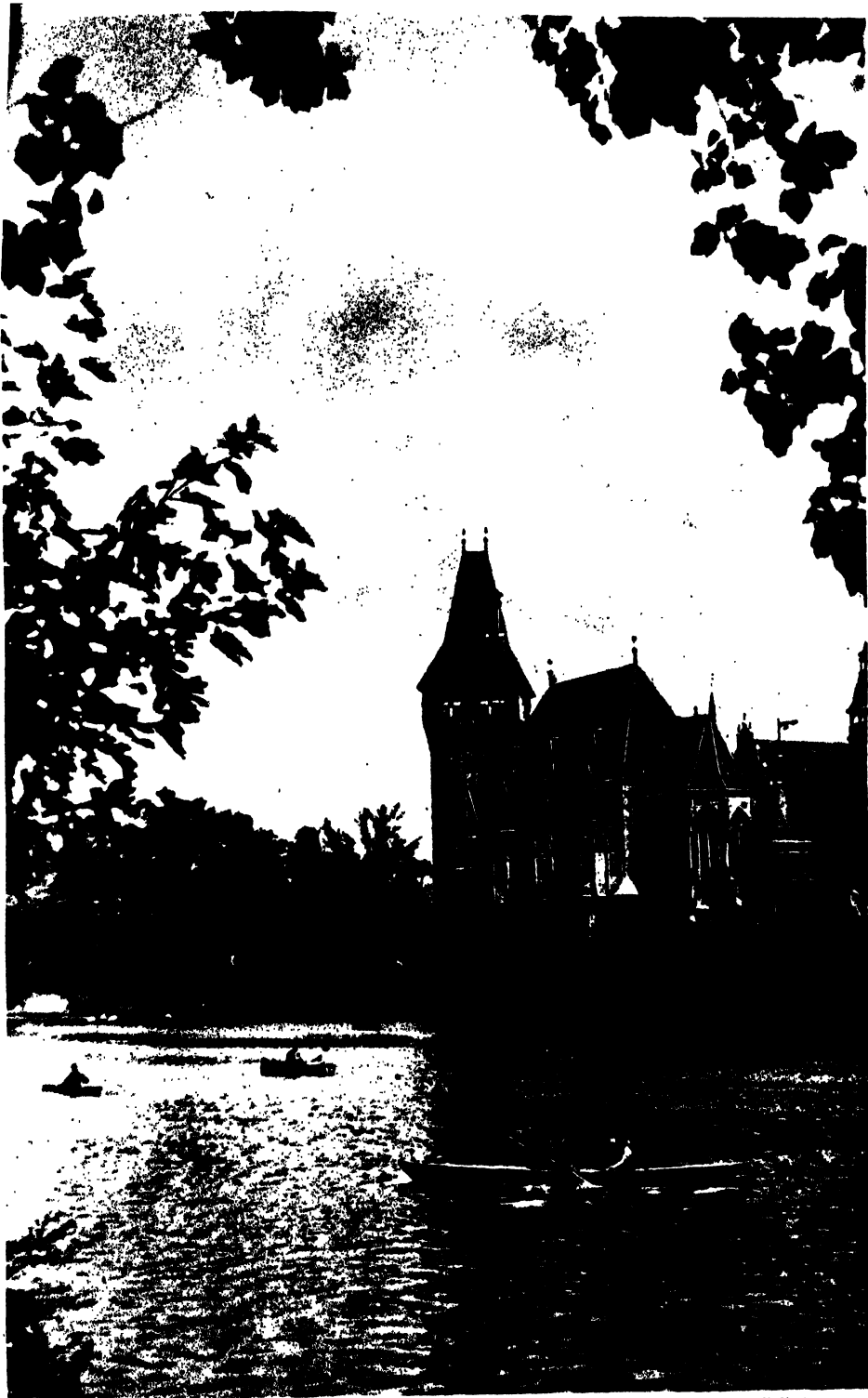
E. Torday

Within this impressive mausoleum at Budapest reposes Louis Kossuth, the chief hero of the Hungarian struggle for independence in 1848-49



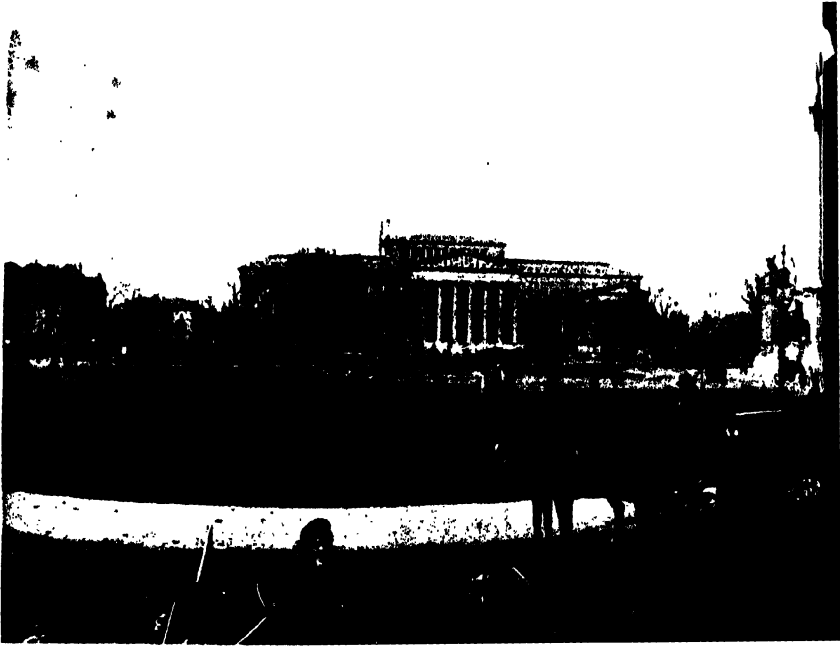
E. Torday

BUDAPEST. The Fishermen's Bastion, a prominent part of Buda, commands a superb view. Its medieval character is carefully preserved



R. N. A.

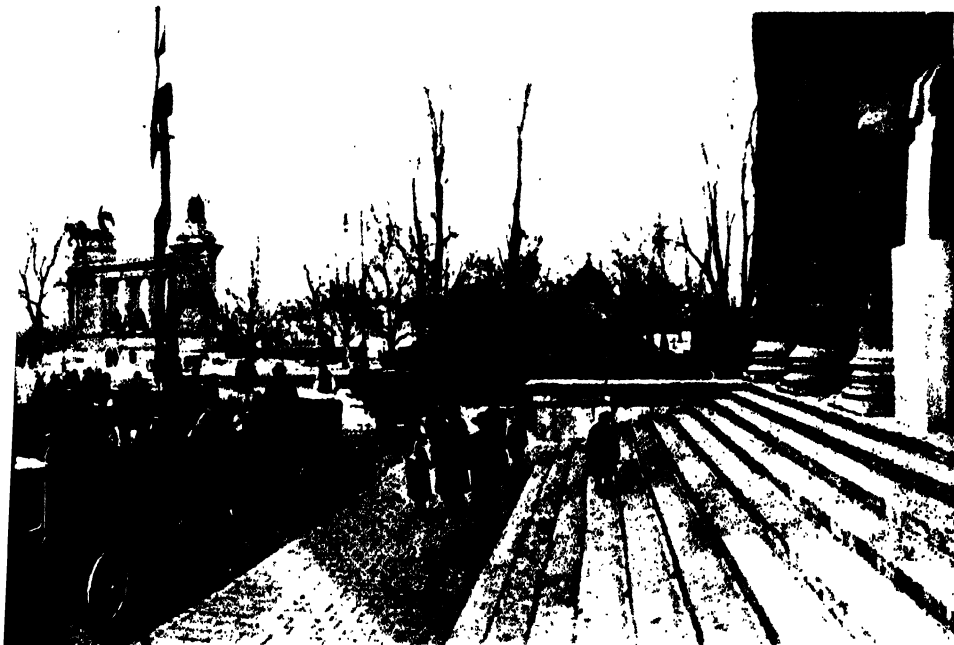
BUDAPEST. *The Vajda-Hunyad Castle, utilised as an agricultural museum, is artistically located on Széchenyi Island in the City Park*



BUDAPEST. *The arts are prized in the metropolis, and this Museum of Arts, built in pure Greek style, contains the finest collection in Hungary.*

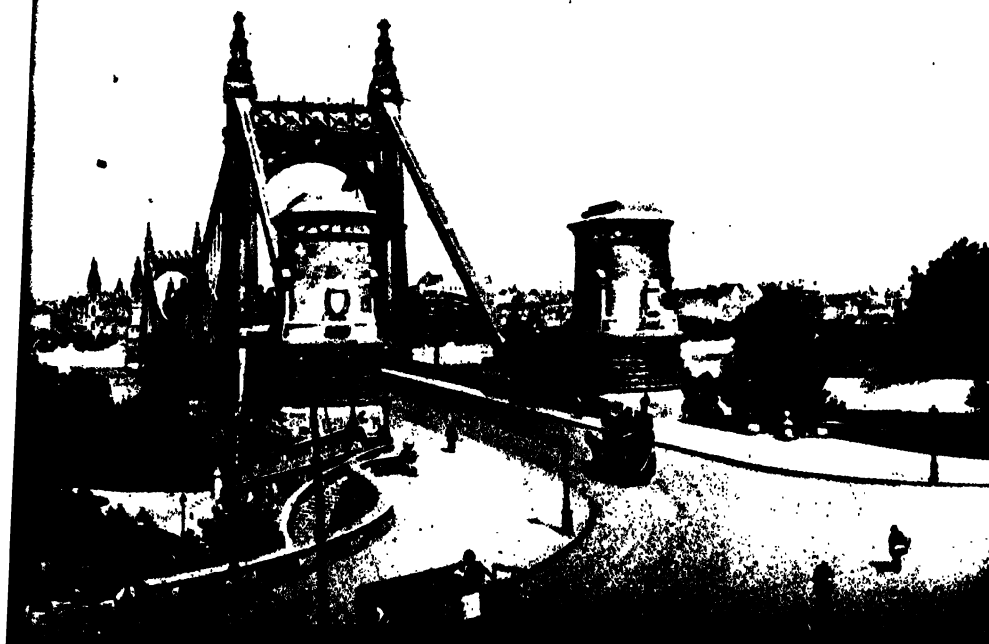


BUDAPEST. *It is undoubtedly to the broad Danube that the Hungarian capital owes its beauty of situation and its unusual wealth of splendid views.*



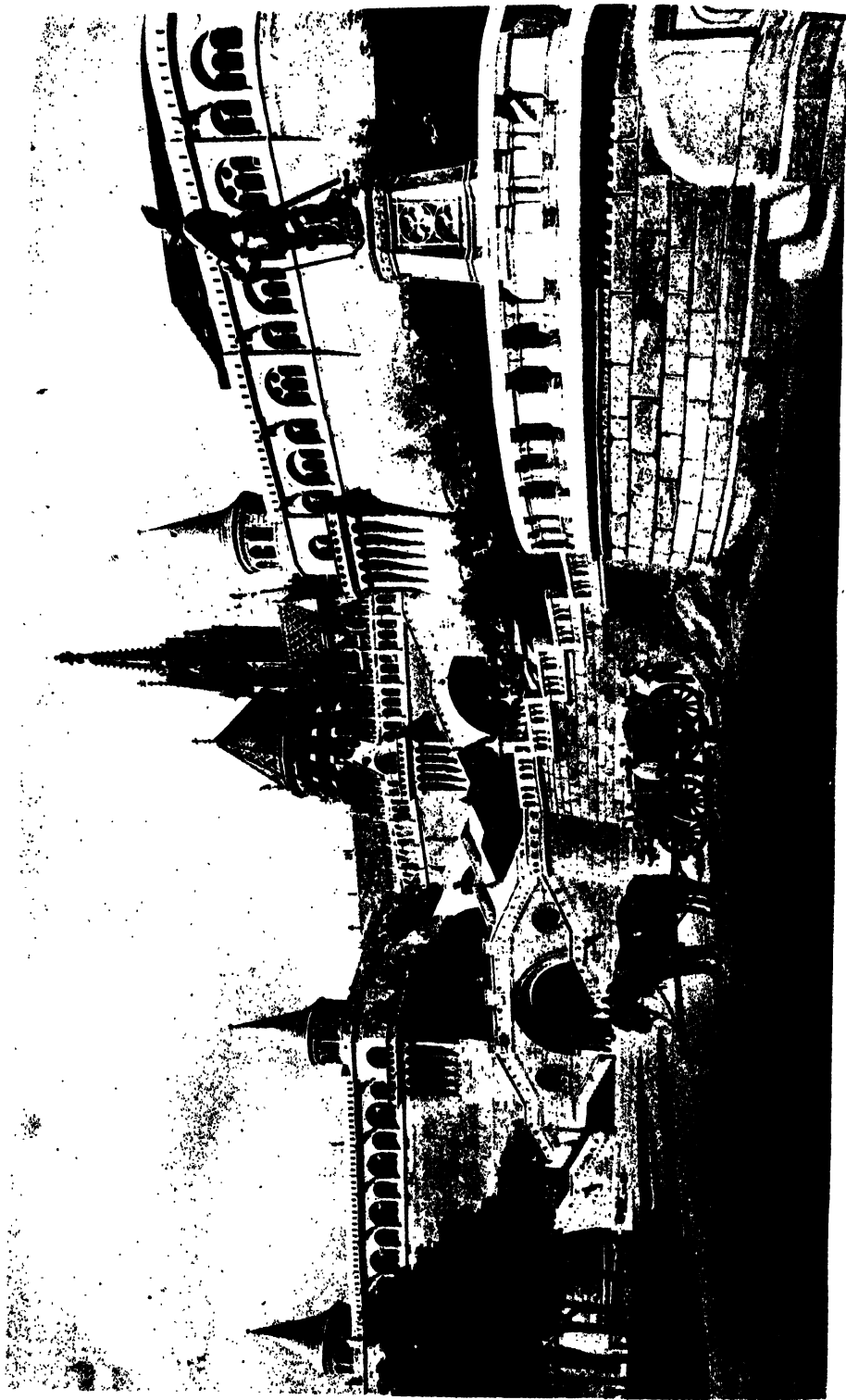
E. N. A.

beyond these steps leading to the Art Gallery rise the 118-foot Millennium column and the Colonnade adorned with statues of the kings of Hungary

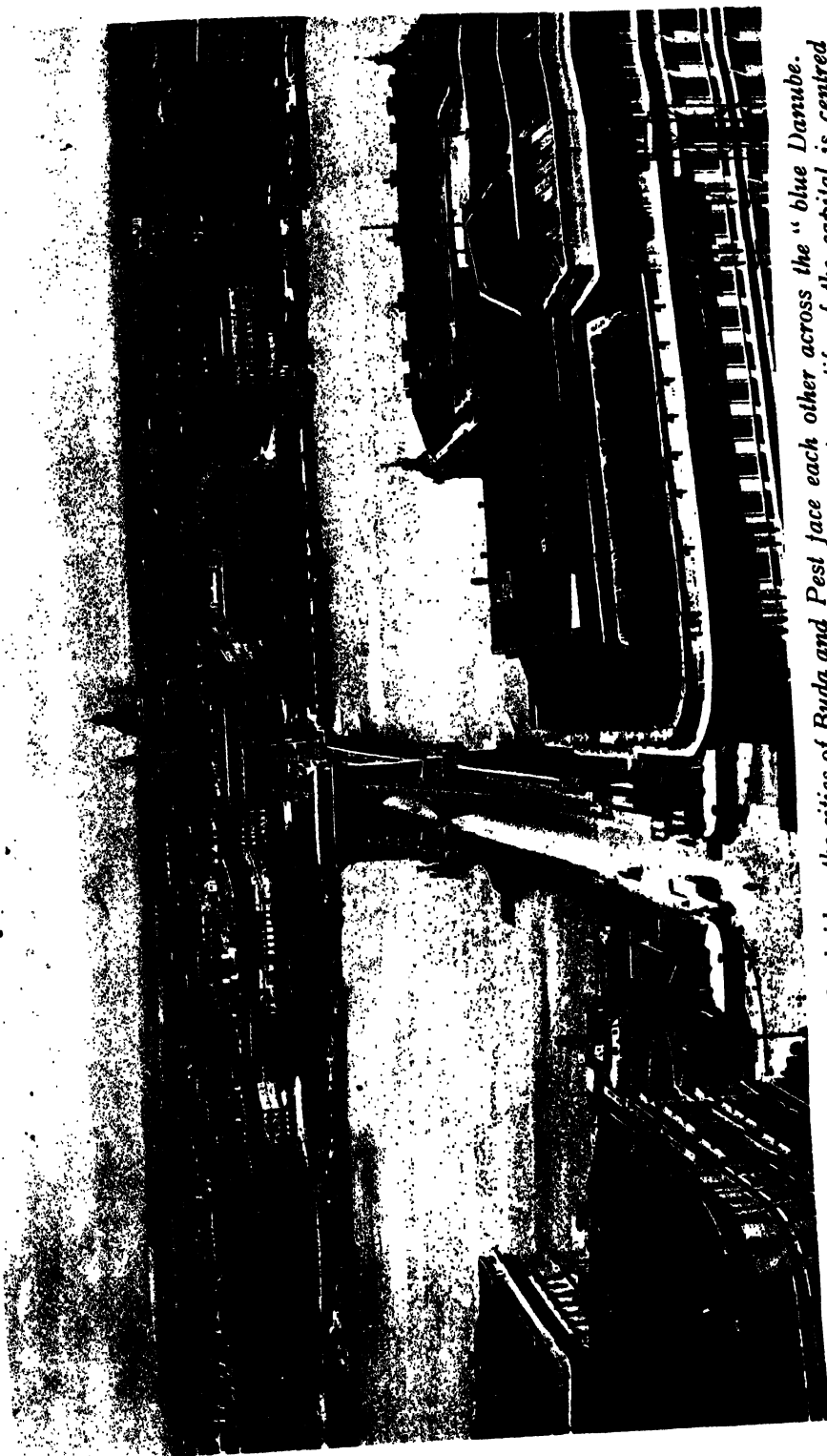


E. N. A.

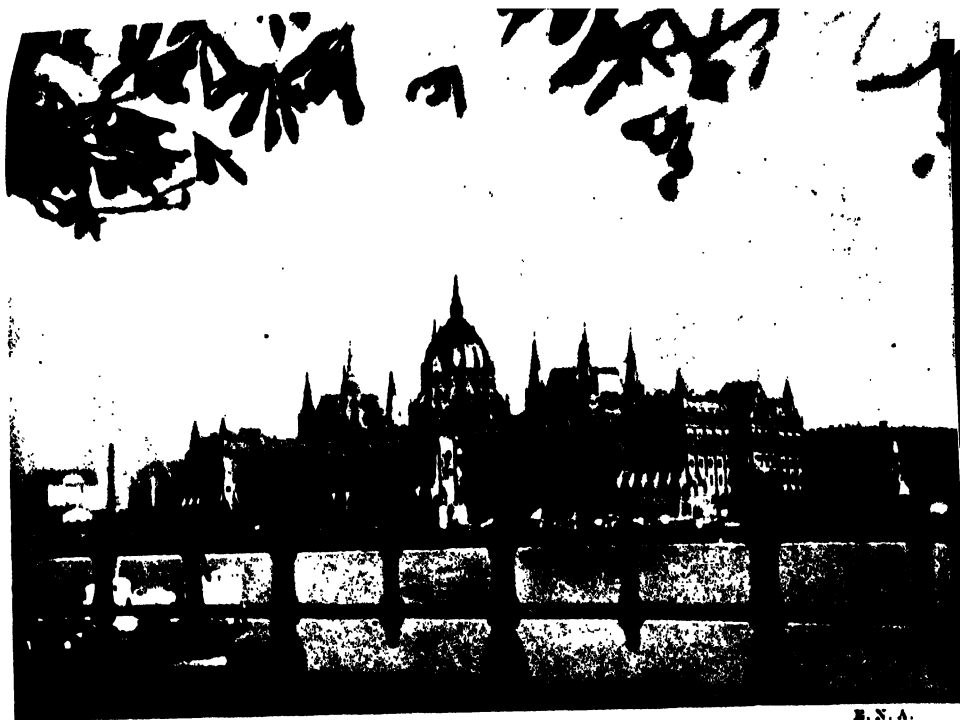
Its architecture has much individuality, and the six bridges, including the graceful one-span Elizabeth bridge seen above, are structures of distinct merit



BUDAPEST. Ascending Castle Hill by the Albrecht Uti, a fine flight of stairs leads up to the Fishermen's Bastion and S. Matthias' Church between the columns of the Fishermen's Bastion.

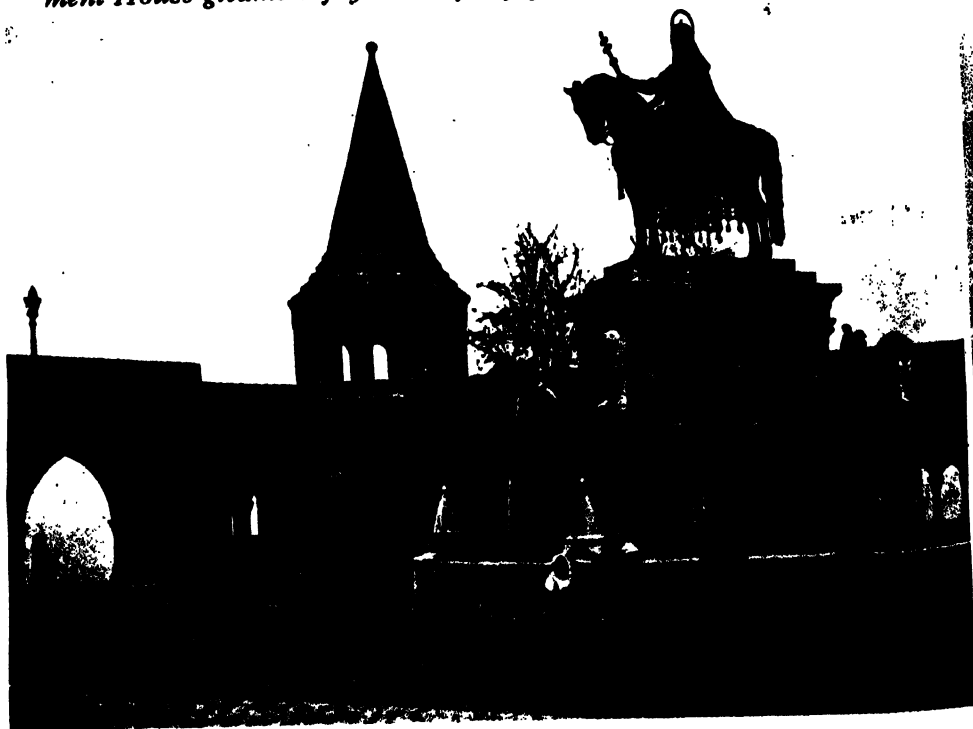


*BUDAPEST. Connected by slender bridges the cities of Buda and Pest face each other across the "blue Danube."
Here the old chain bridge is seen leading to Pest, where the important business life of the capital is centred*



E. N. A.

Viewed across the Danube in the glow of sunset Budapest's Parliament House gleams softly like a fairy palace of some delusive mirage



BUDAPEST. *Overlooking the city from Castle Hill stands an equestrian statue in Byzantine style of S. Stephen, first King of Hungary*

From the Editor's Desk

(CONTINUED)

of realization; but - thanks to you - I have done the next best thing for nearly two years. I have, in imagination, accompanied you all over the world, have peeped into every hole and corner, have seen all sorts and conditions of men, have visited the wonders of the past.

I am greatly interested in mythology, ethnology, and anthropology, and I can assure you I have spent many a delightful hour in the company of "Peoples of All Nations." So I was compelled to rescind my decision, to "carry on" and again zigzag in the new adventure. The opening contribution in Part 1, of *COUNTRIES OF THE WORLD*, by Joseph Conrad, is delightful; one can visualise it all. I am now at Part 5, and it is - imply superb, the coloured plates alone in all five Parts, as well as those in "P.A.N.," being more than value for the money.

With every wish for your future success.

Believe me, etc.,

Nottingham, April 24th, 1924. W. D. K.



A Welcome Appreciation

THE letter which I am about to quote expresses so well the most important function of *COUNTRIES OF THE WORLD* that it hardly needs comment, except in the matter of the bibliography:

Dear Sir, I am buying *COUNTRIES OF THE WORLD* regularly, and have enjoyed the perusal of each number and always look forward eagerly to the next.

How I wish that this work had been available in my schooldays! We are not all capable of seeing in our mind's eye a picture of a place of which we have read a description, however good that may be, if the elements of the picture are strange to, or outside, our experience. But give us simple views of the different types of scenery, vegetation and climate and we can appreciate geography books and books of travel.

I should like to know if you are going to make the work extra valuable to the general reader by giving a bibliography of travel literature. It seems to me that having edited such a work you must have at your command much material suitable for such a guide. You provide us with the scenes; help us to find actors to move through them!

With best wishes for the success of your undertaking,

Yours, M. G. BARNETT.

12, Alroy Road,
Finsbury Park, N.4.



About Bibliographies

A BIBLIOGRAPHY always crops up in the letters of my correspondents, and always gives me pause. It is a feature which I would very much like to include and would have liked to include in previous works; but the difficulties of such a course are almost insurmountable. Not only is it extremely hard to find out what is the most authoritative work on any given subject, but a bibliography so soon becomes out of date, and it is impossible to guarantee that a work quoted will be in print or easily obtainable everywhere.

Publishers' Binding Scheme

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The publishers of *COUNTRIES OF THE WORLD* are prepared to undertake the actual work of binding the loose parts into volume form for such subscribers as are unable to get this done to their satisfaction locally.

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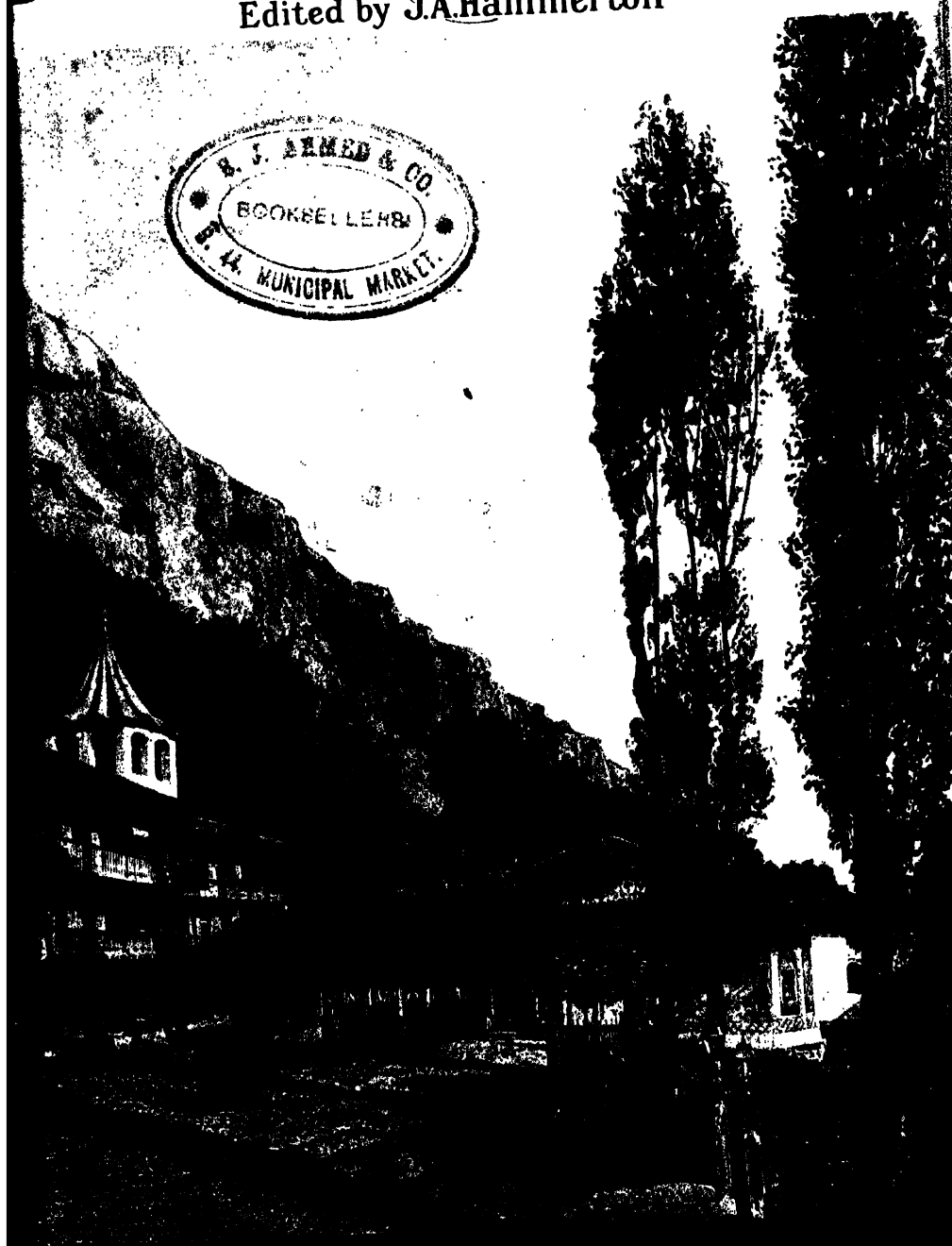
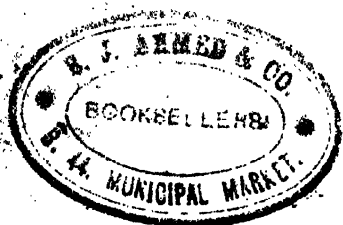
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Edited by J.A. Hammerton



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Contents of this Part

BUENOS AIRES	- - -	<i>Plan & 16 Photographs -</i>	<i>J. A. Hammetton</i>
BUKAREST	- - -	" " 13 "	<i>Florence Farmborough</i>
BULGARIA	- - -	<i>Map " 27</i>	<i>Frank Fox</i>
BURMA	- - -	" " 39 "	<i>Capt. F. Kingdon Ward</i>

PHOTOGRAVURE SECTIONS (16 pages), Burma & Cairo

FULL COLOUR SECTION (8 pages), Bulgaria

From the Editor's Desk

THE FLEETWAY HOUSE, FAIRRINGDON STREET
LONDON, E.C.4

OCCURRING at the present moment, the chapter by Captain Kingdon Ward on Burma in this Part should have a particular appeal for my readers. I have in mind, of course, the wonderful reproduction in miniature of that land of glamour to be seen at the British Empire Exhibition at Wembley, whither, no doubt, many of you have found your way. And for those who have not yet paid their visit, I can imagine no better companion and guide than *COUNTRIES OF THE WORLD*, whether it be a question of Burma or of any other section of the Empire. Take Australia, for instance, already amply treated in Part 5; or Canada appearing in the next Part and Cape of Good Hope in the Part after that. Several chapters on India have also been published which should prove of help, as well as of interest, to prospective visitors; and I should be happy to feel that the work had contributed in any way to their enjoyment.

Contributors to the Present Part

CAPTAIN KINGDON WARD, who contributes the chapter on Burma, is at present out of the country on one of his trips of exploration. He is a keen naturalist and has travelled widely throughout Burma, Tibet and China; those who read his contribution may well envy him his opportunities of seeing with his own eyes what he describes, but the wonderful series of photographs which have been secured to illustrate it will go far towards appeasing their curiosity. Also, as I have said, there is Wembley! Bukarest is contributed by Miss Florence Farmborough, and I think that her love for the people and the places with which she deals so shines through every word she has written that it needs no further comment from me.

Mr. Frank Fox is a gifted writer and journalist of Australian birth, and derives his knowledge of Bulgaria from having been attached to the Bulgarian Army as war correspondent during the Balkan War.

Ground Covered by Part 12

THE contribution on Canada which I have mentioned is by Mr. E. B. Osborn, and constitutes a justification for the colour plate on the cover of Part 8 which, as I stated on that occasion, will eventually form the frontispiece of Volume 2. Of the other chapters in Part 12, Cairo, by Mr. Valentine Williams, naturally comes first, seeing that the photogravure section illustrating it concludes the present Part. Thereafter come Calcutta and Cambridge, as different in size, place, origin, customs and appearance as two towns of such importance could well be. They are described by Mr. Edmund Candler and Mr. Arthur Gray respectively, and Cambridge is illustrated by a remarkably fine photogravure section consisting of photographs taken specially for the occasion. The colour section, which is one of unusual beauty, is devoted to Cairo, while Canada is the subject of the second photogravure section.

A "Master" of Research

MR. ARTHUR GRAY is the Master of Jesus College, and there could be no one better fitted to deal with his subject. At one time he was President of the Cambridge Antiquarian Society and his book, "Cambridge and its Story," will have made his fascinating pen familiar to many; though few, probably, who have not been "in statu pupillari" have

[Continued on page iii of this wrapper]

BUENOS AIRES

Plastic Splendour of Argentina's Capital

by J. A. Hammerton

Author of "The Argentine Through English Eyes"

THE visitor to Buenos Aires, capital of Argentina and largest city in South America, would do well to choose his time. For it must be remembered that the vast half-continent with its length of nearly 5,000 miles is by no means all in the tropics; and Buenos Aires itself, though in a southern latitude corresponding roughly with that of Cyprus or Madeira in the north, is subject in winter-time to variations of climate that would be no discredit to England.

Wet or fine, however, the interminable formalities of the "Aduana" must be endured before our traveller is free to look about him and form his first impressions of Buenos Aires. His preconceived notions of the "Paris of South America" will receive some rude shocks as he is whirled in a wheezy motor-car over the bumpy causeway of the Avenida del Oeste; but to look at a city in the neighbourhood of its docks is like catching a fastidious friend when he has been grubbing in the garden. So we may suppress these virginal impressions and wait until our traveller has penetrated well into the city.

Level Monotony of the City Site

Here it is probable that the first thing of all to strike him will be its flatness. This, of course, he could not verify from his position on the quays of the Dársena Sud; but it is a fact that a rockery in the Plaza San Martín and an artificial mound in the Plaza Constitución are all in the way of hills that a drive through the city will reveal, though some of the later buildings, and notably the Galería Güemés in the Calle Florida, are respectable efforts at the New York "skyscraper"

and offer possibilities of far horizons to those who mount their soaring storeys.

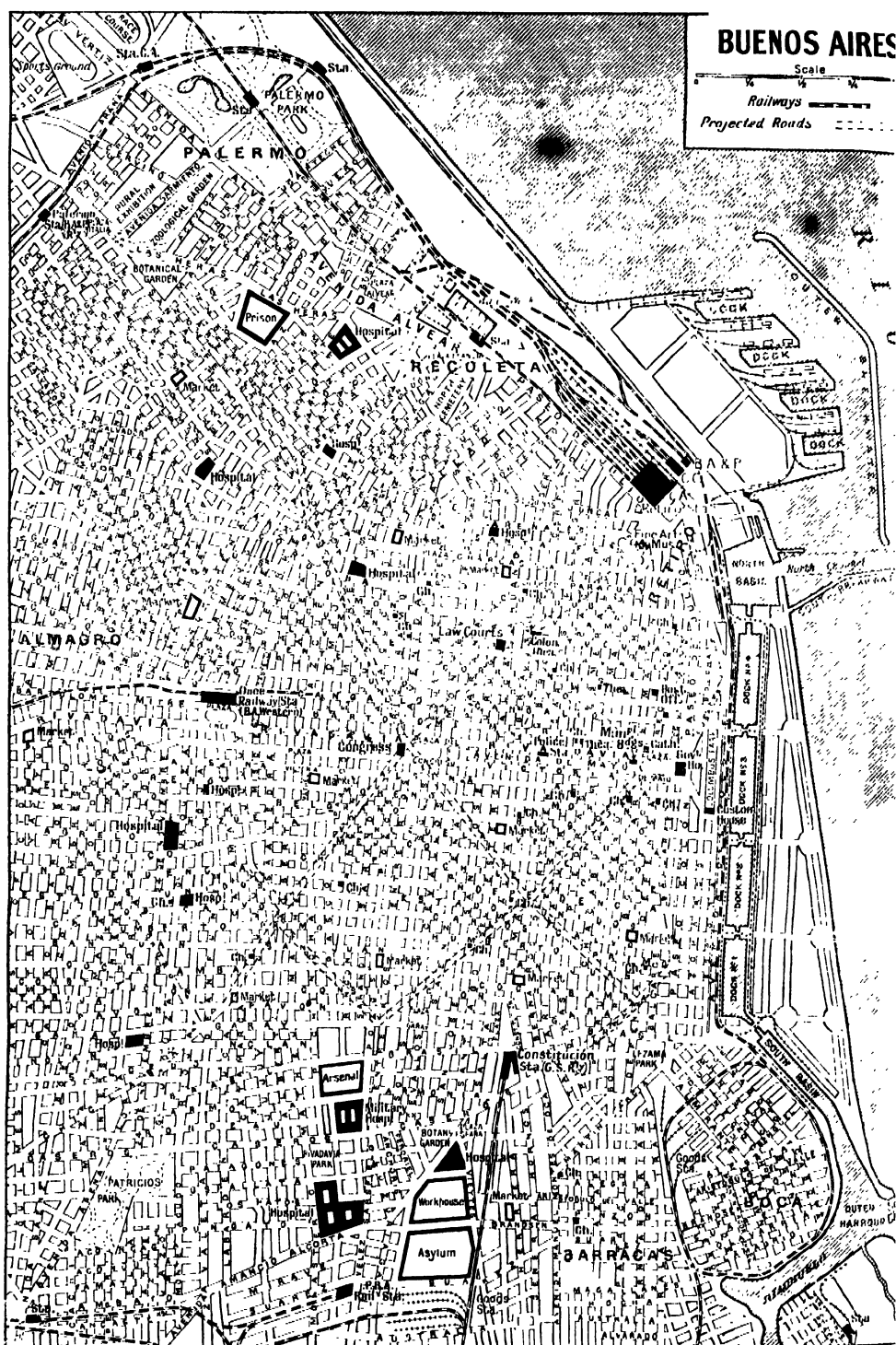
Buenos Aires is, indeed, built on an unrelieved plain at an average altitude of 65 feet above sea-level. The site is some 155 miles from the mouth of the River Plate estuary where its great width narrows down to a mere 35 miles or so; stretching inland from the shore and northward or north westward from the Riachuelo river, the federal district including the suburbs covers an area of over 70 square miles. But these are figures that only the most conscientious will have committed to memory before arrival; what of the throbbing centre of human endeavour that fills these level acres

Causes that Led to Independence

Thrice colonised, once in 1535 by Pedro de Mendoza, again in 1542 by Cabeza de Vaca and finally in 1580 by Juan de Garay, Buenos Aires was at last successfully settled. At first, however, it was a dependency of Asunción higher up the river, and it was not until 1776 that the city was made the seat of a vice royalty and the capital of most of Spanish South America. The occupation of Spain by the French during the Napoleonic disturbances in Europe was the ultimate cause of complete separation. Feeling no allegiance to the usurping dynasty the Buenos Airians decided to carry on government themselves, first in the name of the deposed Ferdinand VII. and finally as an independent republic.

May 25, 1810, is recognized as the date of this decision, hence the prevalence of "25 de Mayo" as a street name in South American cities. But independence was not won without sacrifices,

BUENOS AIRES



BUENOS AIRES WITH ITS REGULAR STREETS AND PROJECTED AVENUES

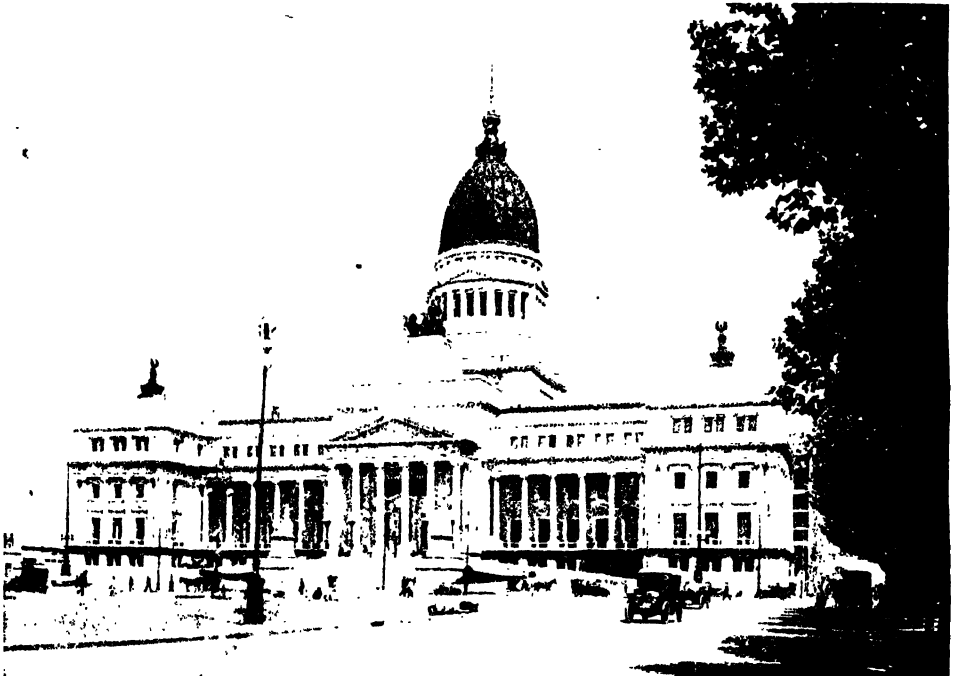
for in the internal dissensions that followed Bolivia, Paraguay and Uruguay split off as separate units. From then onwards, in spite of continual civil wars, the story of Buenos Aires is one of steadily increasing prosperity, until to-day it is the teeming city that we are about to examine, fourth for size in the whole American continent.

On Board ship, no doubt, the traveller will have looked at a plan of Buenos Aires, so different in its regularity from those of European cities, and likened it with misgiving to a gridiron. The long, straight streets enclosing rectangular blocks or "cuadras" of uniform size (425 feet each way) all run at right angles to each other north and south or east and west, and thus give little promise of variety. But this is one of the defects of a plan: variety there is in plenty, as we shall see. And even a closer study of the plan itself will show numerous departures from this uniformity, notably northwards by Palermo

and in the suburban districts such as Belgrano or Flores.

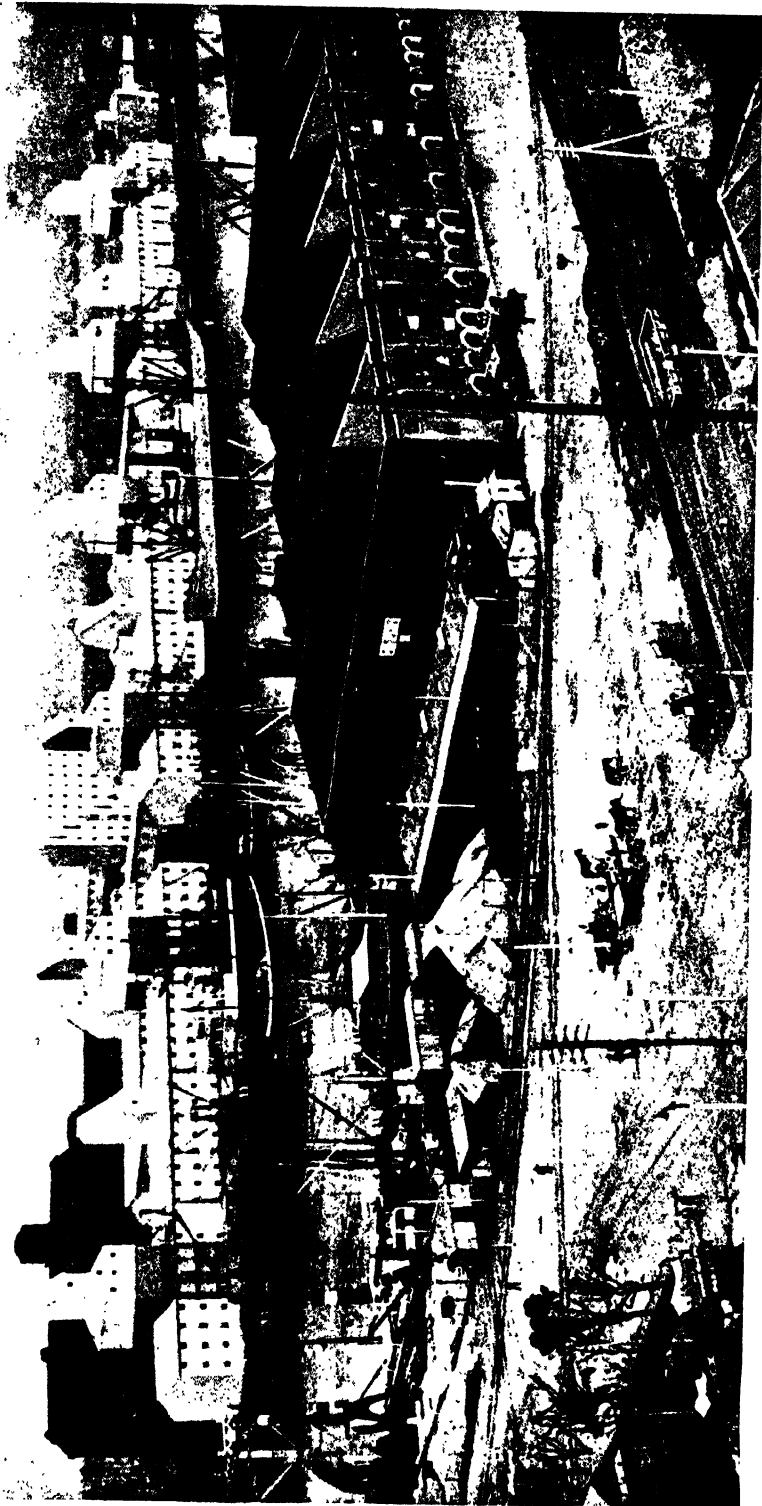
A drive from the Dársena Sud towards the fashionable centre of the town will take one, probably, northward along the river front by way of the Paseo Colón and Paseo de Julio, both somewhat mean in appearance and of evil reputation by night, but of great architectural possibilities by reason of their position. Even now they are rendered not unattractive by the gardens of the Parque Colón (Columbus Park), green and flowery between the paseos and the docks, and by the commanding pink mass of the Casa Rosada, or Government House, which here stands spaciouly where the ancient river bank slopes gently down.

The Paseo de Julio has this other claim to distinction: in order to leave it by one of the cityward streets you must ascend that gentle slope! Brave the little hill offered by one of these streets, then, and you will find yourself



ORNATE HOME OF THE NATIONAL CONGRESS OF BUENOS AIRES

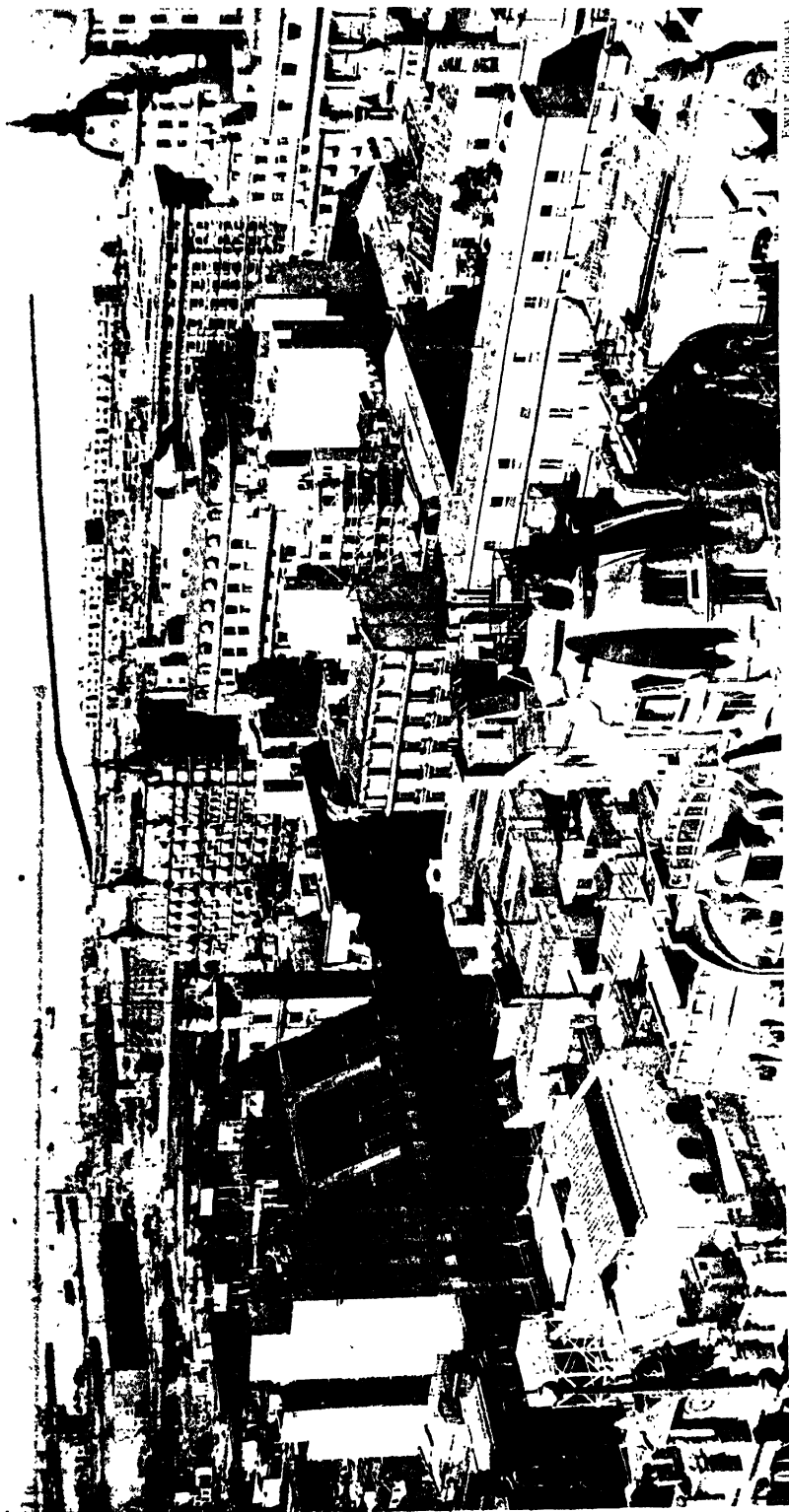
Dignity and elegance are combined in the graceful proportions of the Palacio del Congreso, which presents its marble front to the great Plaza Congreso at the western end of the Avenida de Mayo. It is crowned by an elongated dome and the Corinthian column is used effectively in the façade, which is perhaps rather overloaded with statuary. Both chambers of Congress are housed here



Evening Galloway

GRAIN ELEVATORS, WAREHOUSES AND SHIPPING BASIN IN BUENOS AIRES' DOCK NUMBER THREE

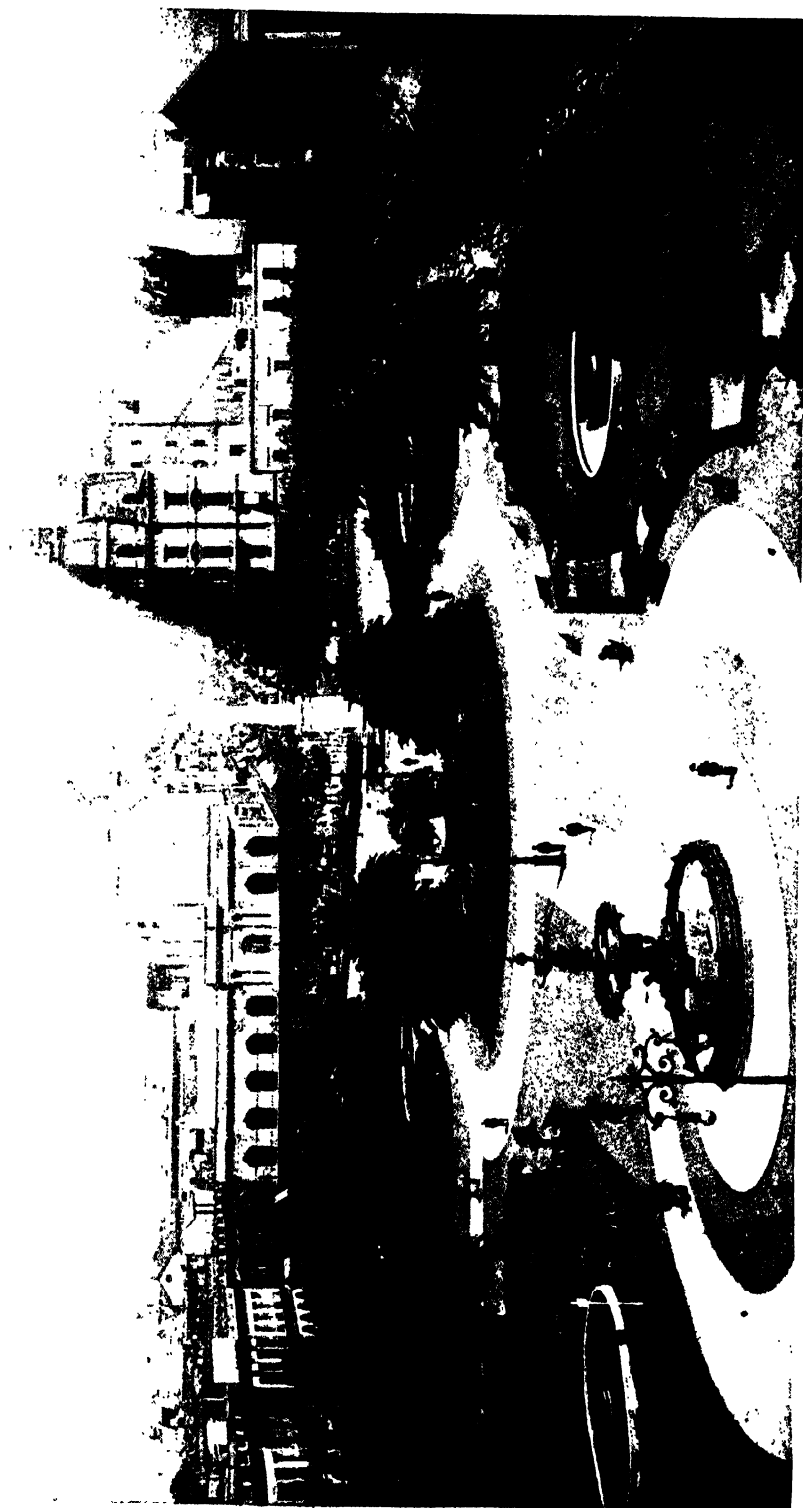
Accommodation for shipping has been enormously increased at Buenos Aires since 1887. It now consists of the Riachuelo at the mouth, or "boca," of the river of the same name and of four communicating docks constructed between the South and North Bays, the whole comprising a total water area of 162 acres. There are also still newer docks north of this basin. More than four-fifths of the country's imports pass through the port and almost three-fifths of its exports. These include grain, but are tinged with which a row of immense elevators is provided alongside the second and third of the four docks.



EWING GARDNER

BIRD'S-EYE VIEW NORTH-EASTWARDS OVER BUENOS AIRES TO THE RIVERSIDE DOCKS

From the roof of a tall building in the Calle Florida this commanding view is obtained north-eastwards of the main business and hotel district of Buenos Aires. The fine building of the Italo-Belgian Bank is in the foreground. In the top left-hand corner is seen the North Basin (Dársena Norte) of the great dock system. To enable large vessels to enter it a channel has to be constantly dredged and the long breakwaters here shown were constructed to prevent the channel from silting up. They are part of an extensive scheme of dock and harbour improvement that was begun in 1911.



WESTWARD VIEW OVER THE PLAZA DE MAYO AND ALONG THE FINE PERSPECTIVE OF THE AVENIDA DE MAYO
 E. S. A.
 Most important of the plazas in Buenos Aires is the Plaza de Mayo near the harbour. The whole of the eastern side of the square, whence we are looking, is occupied by one of the palaces of Government House shown in the opposite page. In the extreme right is the Corinthian portico of the cathedral. The obelisk commemorates the independence of Buenos Aires. Beyond it is the vista of the Avenida de Mayo, with the Palacio del Congreso at the far end, and at the intersection of the Avenida de Mayo and the Avenida de Corrientes, the Municipal Building, overtopped by the palatial offices of La Prensa.

in the Plaza de Mayo, the architectural heart of the city ; or, if you choose one farther north, you will cross in succession the Calles 25 de Mayo, Reconquista, San Martín, Florida and some eleven others in succession before the great Avenida Callao is reached.

All these debouch southwards into the fine Avenida de Mayo, the pride of Buenos Aires. It stretches due west in a splendid vista of undeviating straightness from the Plaza de Mayo to the

fulfilment, for the frequenters of Florida obstinately refuse to desert their allegiance. Hence one suspects the outcome of another laudable project that is pushed forward year by year—the construction of two great diagonal avenidas running north-west and south-west from the corresponding angles of the Plaza de Mayo. When completed they will provide a welcome relief from the rectangular uniformity of Buenos Aires ; but it will be long before Florida



E. N. A.

WEST FRONT OF THE "PINK HOUSE," FROM THE PLAZA DE MAYO

Government House is an enormous, architecturally somewhat amorphous, edifice with four imposing façades pierced with a multitude of windows. It is built of brick and the whole exterior is coloured pink, whence it derives its popular name, "Casa Rosada." The President's quarters are on the first floor ; on the ground and second floors various government offices are installed.

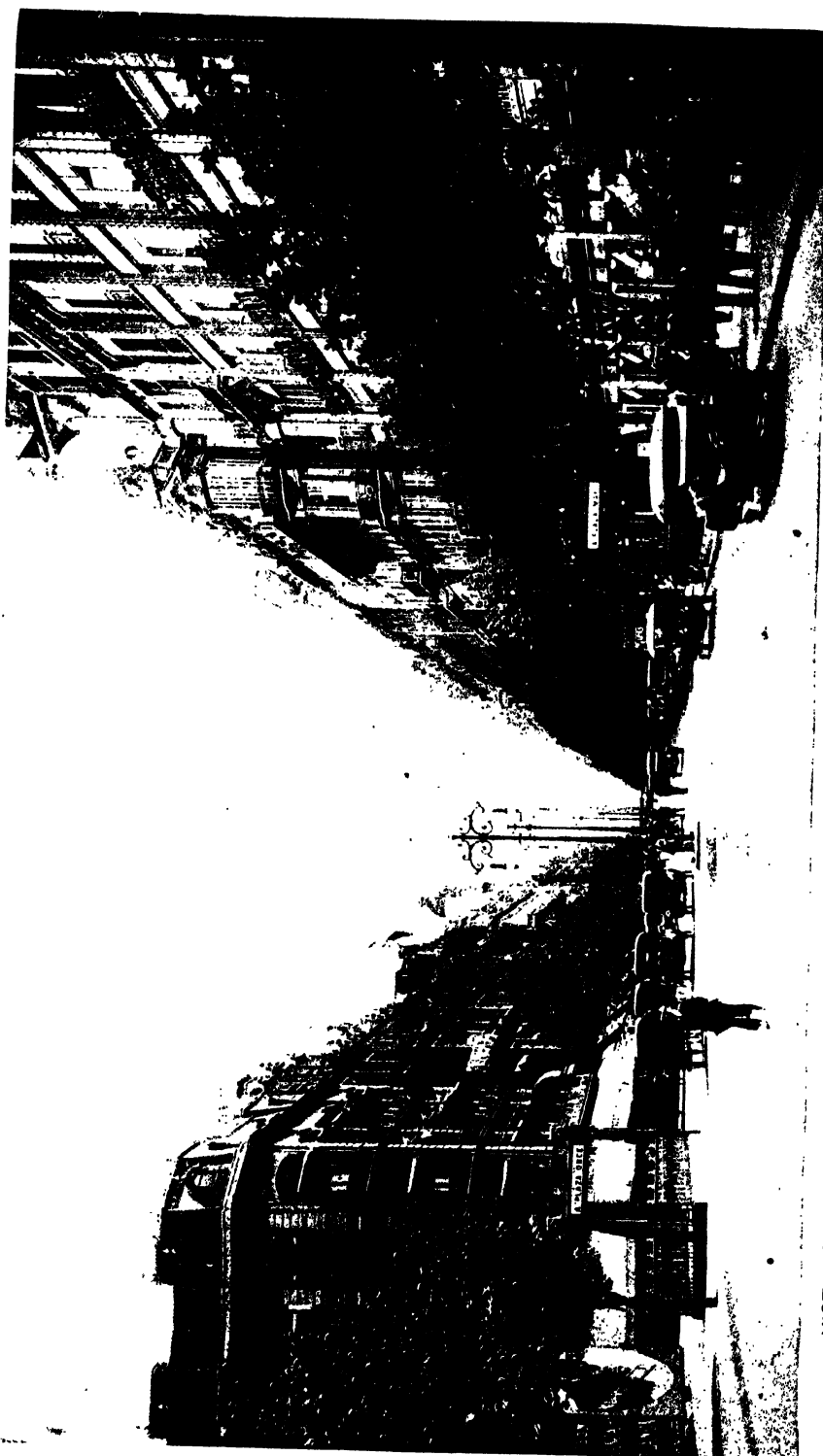
Plaza Congreso, a mile and a half away ; and with the fine six or eight storey buildings that line it and the marbles of the great domed Congreso gleaming in the far distance, it forms a prospect of which any capital city might well be proud. The Avenida (as it is always called) was made by cutting right through a line of cuadras and was designed to divert the press of life and traffic from the narrower streets to the north and south of it ; but custom dies hard and the Calle Florida with the Calle Maipú one block to the west still remains the fashionable centre.

From the Plaza Congreso northward runs another fine thoroughfare flanked with imposing buildings—the Avenida Callao already mentioned. For it, too, great things were prophesied many years ago that still await

surrenders its position of clangorous dominance over the city's life.

Before turning into these narrow haunts of commerce and fashion, let us go farther northward by way of the Calle San Martín. Essentially an earnest business thoroughfare, lined with offices and perpetually choked with traffic, it leads from the Avenida towards the Plaza San Martín. These plazas, which with their trees and flower-beds are one of the most attractive features of the city, are formed by throwing two or three cuadras into one ; and the Plaza San Martín is further adorned with an equestrian statue of the general from whom it takes its name—an ubiquitous hero in South and Central America.

Thereafter we—and the pronoun should include all fashionable Buenos Aires if it be a fine afternoon—thereafter



VISTA OF THE AVENIDA DE MAYO. THE MOST SPACIOUS THOROUGHFARE IN ARGENTINA'S CAPITAL
 Buenos Aires is planned with geometrical precision, in the central parts at any rate. As far as the North-Basin all the calles run northwards, parallel with the river front, with transversal streets at the corner of every block, each block being uniformly 425 feet square. Beyond the North Basin the river bend has compelled the construction of the calles diagonally to their former direction. Finest of all the thoroughfares is the Avenida de Mayo, which runs east to west across the calles from the Plaza de Mayo to the Plaza Congreso. This avenue is a little under 100 feet wide and a mile and a half long.

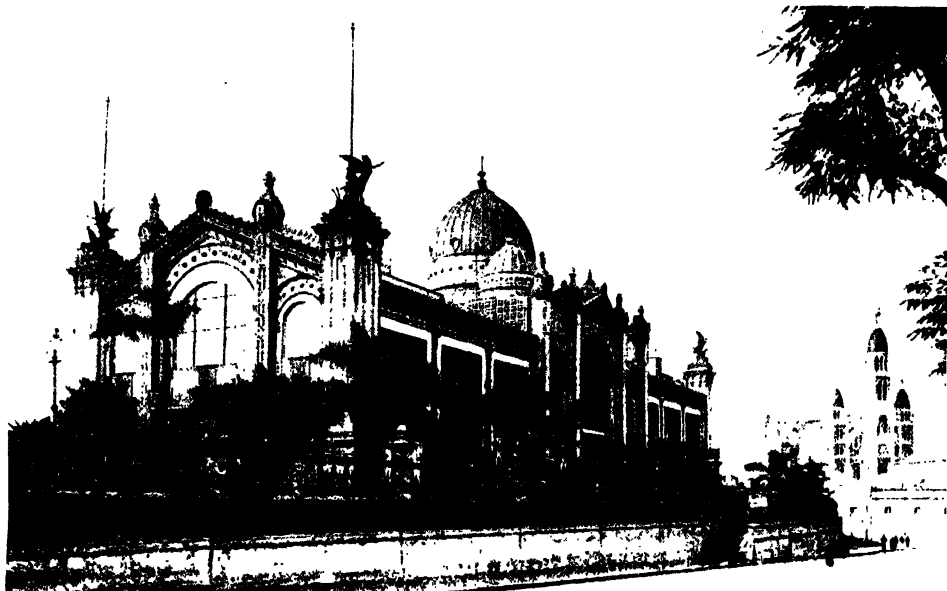
E. N. A



Central Argentine Railway

RETIRO STATION, THE PRINCIPAL TERMINUS IN BUENOS AIRES, AND THE PLAZA INGLATERRA

Retiro Station, the terminus of the Central Argentine and of the Buenos Aires and Pacific railways, lies within sight of the river near the North Basin. In front are the gardens of the Plaza Inglaterra, so called because of the clock tower presented to the city by British residents to commemorate the first centenary of Argentine independence. Of the two railways serving this station the Central Argentine goes by way of Campana and Rosario to Tucuman 700 miles to the north while the Buenos Aires and Pacific runs westward across the country through Ruino and Villa Mercedes to Mendoza and San Juan.



SORRY BUILDING THAT HOUSES THE MUSEUM OF FINE ARTS

There are a number of fine canvases in this museum which stands prominently on the north east side of the Plaza San Martín. Its position emphasises its ugliness, for it is contrived of tawdry red brickwork adorned with gaudy friezes. The building, unfortunately, is the home of the collection, which was bought from an American exhibition where it was used as a pavilion.

we rejoin the Paseo de Julio for a short stretch and finally pass along what is the Park Lane of the city.

In the Avenida Alvear it is the ambition of every rich Argentine to build himself a mansion, even though he occupy it only a few months in the year and spend the rest of his time in Paris. To the south (for following the trend of the river bank the Avenida has bent to the north-west) are pleasant gardens with winding walks and lakelets and shrubberies; but over these we will not linger, for our goal is Palermo.

At last a dusty crossing of wide roads is reached, and on our right are the pines and eucalyptus trees of the famous park. Cool and inviting they look indeed, but a disappointment, perhaps, awaits the visitor who expects something comparable to the Bois de Boulogne, or even to Hyde Park, for Palermo is not large as parks go and the belt of trees is nowhere thick. But continue on to the lakes, and all wealthy Buenos Aires will be seen slowly and solemnly taking the air in showy limousines. As for the "lakes"

themselves, it is sometimes a temptation to call them ponds.

Such, then, is the framework on which hangs the fabric of the city's daily life; now to look more closely at the notable buildings, the shops, the architecture, and at the same time to catch a glimpse of the spirit of the people by watching them at their comings and their goings. In the first place what surprises a visitor most is the amazing narrowness of the streets.

It must be remembered that Buenos Aires is the world's most prodigious mushroom; in little over thirty years its population rose from 180,000 odd to well over a million, and the streets made deliberately narrow by the first Spanish colonisers are now pitifully inadequate for the needs of an enormous metropolis. In fact, not to mince matters, they are an absolute inferno during the day-time. No more than three "coches" can stand abreast in most of them, and even then at least half is taken up by a trolley-car track so that one-way traffic is absolutely imperative. In the Calle Florida (or, familiarly and invariably, Florida)

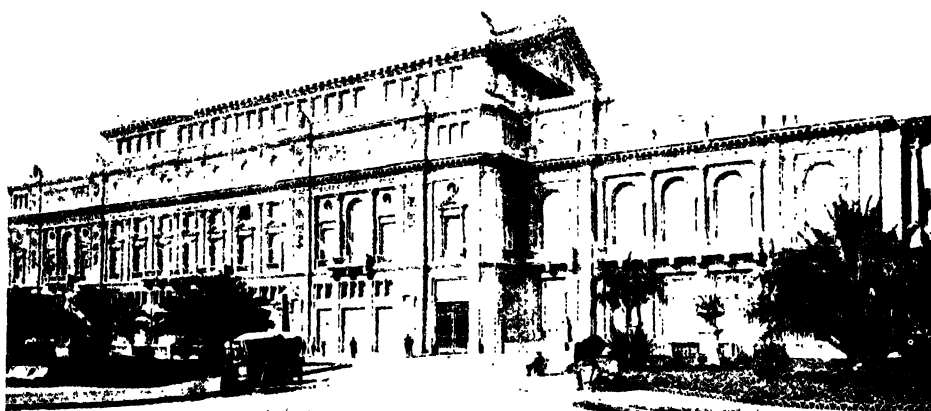
traffic is permitted both ways, it is true ; this, however, not because Florida is any wider than others, but merely because it is mercifully free from the trolley-car—an exception to the rule.

This narrowness of the central streets, which so impresses itself upon the minds of visitors from cities of spacious roadways, is attributable to the fact that the early buildings on the site which is now covered by the fourth city of the American continent comprised some sixteen blocks by nine of low and thatched houses, chiefly of sun-dried brick ; and these, following the old Spanish style with an interior courtyard or patio which the Spaniards had originally derived from the Moor, pushed their outer walls as far towards each other as possible so that there might be a maximum of shadow thrown into the intervening lanes during the sun's long reign in the stifling months of summer. The influence of these far-off colonial days is still effective, and with the development of modern building, with piles from six to twelve storeys where once a single one sufficed, the original lanes even when doubled in width remain comparatively narrow streets, through which the tide of traffic foams and surges like a mountain-torrent swollen beyond the compass of its bed.

The mushroom-like growth of Buenos Aires has resulted in another noticeable feature—the startling disparity of architecture. This is being altered with such rapidity that it is scarce safe to speak with confidence a month after leaving the city ; buildings seem to get demolished in a night and substitutes of steel and stucco run up in a week ; but side by side with these towering modern erections it is still possible to see an old one-storeyed house of colonial days, built round a patio and with never a window facing on the street. This will be the property of some old and exclusive "criollo" family, and in the suburbs there are many such.

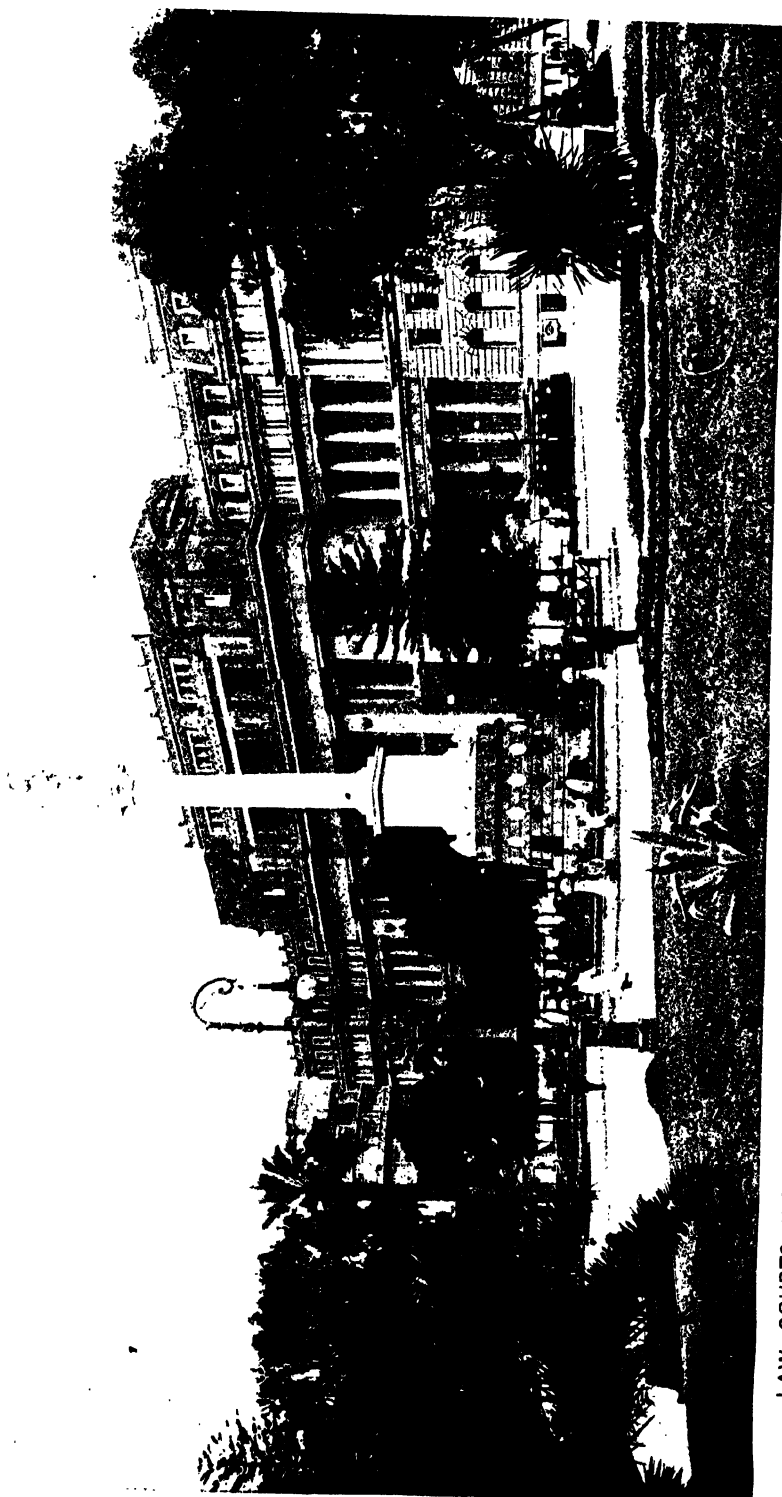
Bearing these facts in mind, so as to be able to make the necessary allowances if in order to see some fine building we must climb to the top storey of the house opposite, we will take a "pasco" through the main streets. Perhaps we are in Florida—and who is not at some time of the day? For Florida is the artery through which every drop of the city's blood would seem to pass at least once in the twenty-four hours.

Walking southwards then we shall note the bad quality of the paving and the sumptuous nature of the shops. The jewellers, the modistes,

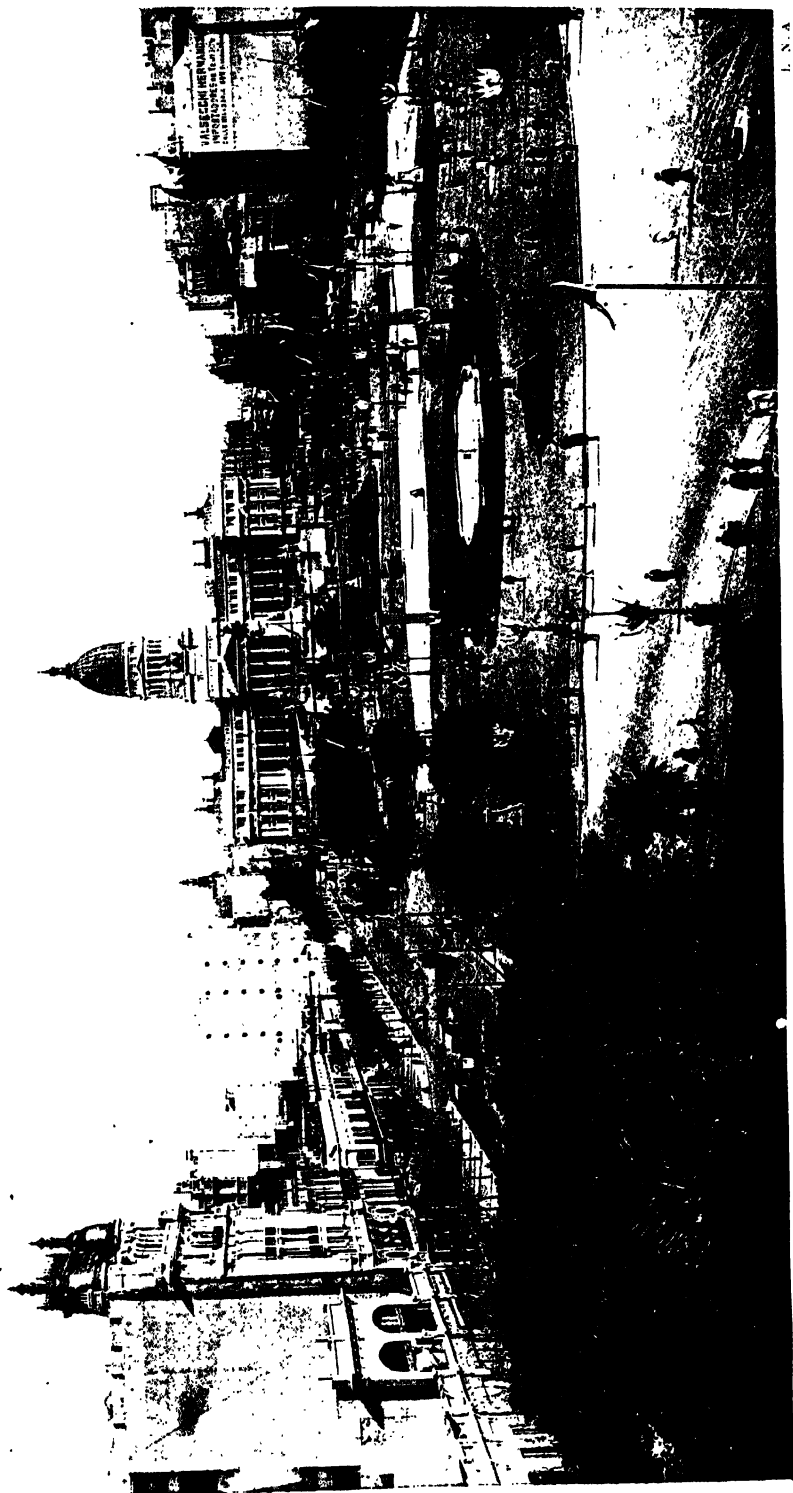


SIMPLE FACADE OF AN EXTREMELY BEAUTIFUL OPERA HOUSE

Opposite the Tribunales in the Plaza Lavalle stands the Teatro Colón—the Columbus Theatre. It was erected to take the place, as far as opera is concerned, of the older theatre in the Calle Corrientes ; and the performances during the short opera season, being state-aided, are excellent. The exterior is restrained, if unambitious, but the appointments within are beautiful.



LAW COURTS WORTHY OF A TEEMING CITY SEEN THROUGH THE GREENERY OF THE PLAZA LAVALLE
 Among the most delightful features of Buenos Aires, providing a welcome relief from the uniformity of the rectangular "cuadras," are the tree-planted "plazas" of which many exist and more are projected. Indeed the whole city is constantly being transformed, new buildings and new diagonal "avenidas" springing into being with amazing rapidity. On the west side of the Plaza Lavalle, and seen here immediately behind the monument to the general of that name, is the dignified façade of the Tribunales or Law Courts, quite one of the best architectural efforts in the whole city with its massive square columns
 E. N. A.



L. N. A.

PLAZA CONGRESO, THE GRANDIOSE TERMINATION OF BUENOS AIRES' FINEST THOROUGHFARE

At the western end of the Avenida de Mayo the Plaza Congreso, in front of the domed marble palace which gives the square its name, provides a fitting termination to a city thoroughfare that ranks with the world's best. Here the roadway bifurcates, leaving an open space of which full decorative advantage has been taken. The principal monument commemorates the centenary of Argentine independence. Steps lead up to a circular terrace. In the centre of which a square pedestal rises, its sides adorned with symbolic figures and its summit crowned by a colossal statue of the Argentine Republic offering her riches to all mankind.



PALATIAL OFFICES OF "LA PRENSA"

One of the finest streets in Buenos Aires is the Avenida de Mayo; in it, separated from the Plaza de Mayo by the Municipal Building on the right, are the "Prensa" offices the most sumptuous newspaper quarters in the

headquarters— "La Prensa" is the largest Argentine newspaper, indeed one of the largest in the world. The veritable palace that houses it is marvellously equipped in every respect, including baths, concert-hall and suites of chambers for distinguished guests, while the view over Buenos Aires to be had from the cupola surmounting the building is one never to be forgotten, especially at night time when the city shows up all diamonded with its prodigality of electric lights.

Adjoining the "Prensa" palace stands the Intendencia or Municipal Building where the Avenida joins the Plaza de Mayo, but it is far less imposing than the newspaper office; and there may be a moral in that, though as a journalist I hesitate to point it. I certainly know of no city in North America where journalism is more alive than here, and

are all that one is accustomed to on the boulevards of Paris; but the chemists ("farmacias") and shoe-shining parlours ("salones de lustrar") exceed in number those of any European city.

If we escape the tramlines where the side-streets cross we shall find ourselves in the Avenida, having noticed many fine business houses or "stores" but only one public building of note—the famous Jockey Club. Its outward appearance is by no means unpleasing, but owing to the narrowness of the street it shows up best at night when the myriad electric bulbs that adorn it are lit. Turning to the left down the Avenida, our attention is caught by the splendid frontage of the "Prensa"

Paris, with its multiplicity of newspapers which far exceed, in number at least, the news sheets published in London, is outrivalled. A veritable babel of tongues is represented by the papers sold in the streets each day—French, German, Spanish, Italian, Syrian and English readers being offered the news of the day in their own language.

Entering the Plaza de Mayo, we have facing us the Casa Rosada occupying the whole east side of the square. It is the official residence of the President and derives its name from the pinkish stucco with which it is faced sadly dilapidated in parts. By this time it will have been realized that all the most ambitious and stately effects in the city are

achieved in such unenduring material; but it must be remembered that building stone in this alluvial region is immensely more costly than in Europe.

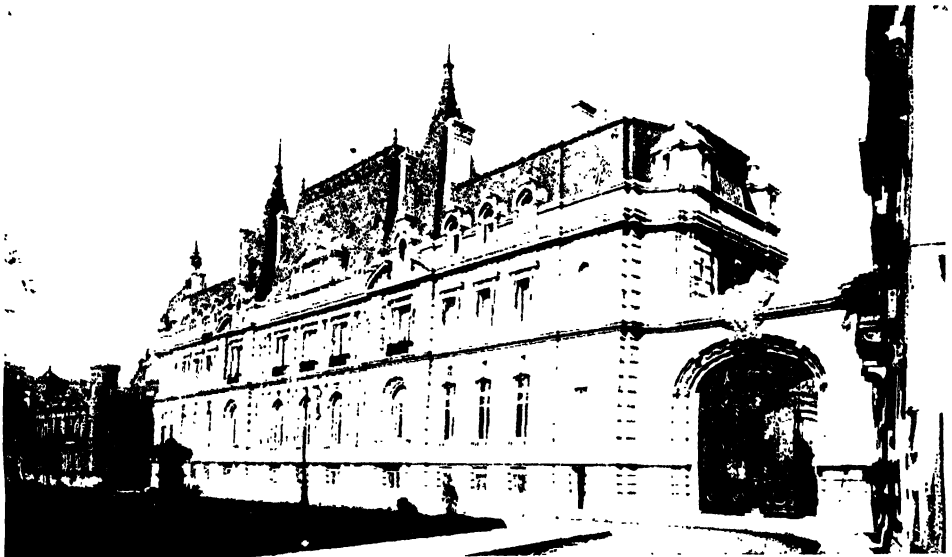
At the north-west corner of the Plaza de Mayo stands the cathedral; classic-commonplace in style, it strikes one as hardly appropriate to its purpose, but its most disturbing feature to a European visitor is the fact that the Corinthian columns of its frontage are permanently festooned with strings of electric bulbs! And what is more, no opportunity of lighting them is neglected. More pleasing is the domed bulk of the Palacio del Congreso distantly seen at the other end of the long Avenida.

This at least, as we shall find when we come to close quarters, is not faced with stucco, but it is to be feared that its gleaming marble is only a veneer. Dignity and elegance, however, are combined in its graceful proportions and its elongated dome soars above the surrounding buildings with a fine sense of confidence, while grand stairways sweep up to its central doorway. Within it are the Chamber of Deputies in the shape of an ellipse, the Senate

House, smaller but richly furnished, and various ministerial departments and offices devoted to state affairs.

If we cross the Avenida at the Plaza de Mayo and go some four squares down the Calle Defensa we shall find one of the few historic buildings of the city—the Church of our Lady of the Rosary. It has no particular claims to architectural distinction, but in the tower surmounting the entrance a number of cannon balls are embedded, said, but on doubtful authority, to be relics of the British bombardment of 1806.

But it would be impossible to pass all the public buildings of Buenos Aires in orderly review. There are too many of them for that, and in the sense that they are chiefly imitations of European styles there is a certain sameness about them; for the Argentine has not yet developed a style of his own. Two buildings there are, however, which should certainly not escape notice: one is the Teatro Colón and the other the Tribunales or La Courts; both stand in the Plaza Lavalle about half a dozen cuadras westward from Florida. The Colón is on the east side of the square



E. N. A.

LUXURIOUS DOMESTIC ARCHITECTURE OF THE RICH

Palaces Buenos Aires has, but they are palaces of successful citizens. This immense French Renaissance building fronting on the Plaza San Martín, the most fashionable residential quarter, belongs to the Paz family whose head owns "La Prensa," the great newspaper. The Plaza San Martín lies just to the west of the Paséo de Julio on a level with the North Basin



BOATING ON THE TIGRE, WHERE BUENOS AIRES SEEKS RELIEF FROM THE ROUND OF BUSINESS
 North-westwards some 16 miles from the city the Tigre, itself no inconsiderable stream, empties into the sea-like River Plate amid a little archipelago of fertile alluvial islands. The drive thither is execrable, dusty in summer and a muddy morass in winter, but there nevertheless is the favoured pleasure resort of Buenos Aires; a kind of garden city is springing up in which the most charming country villas may be seen interspersed with examples of rococo vulgarity. The banks of the river are lined with the palaces of boating clubs, fine, well-kept villas, and every luxury while the water is gay with launches and motor-boats.

and is the home of state-aided opera, built to replace the old Teatro de la Opera which still thrives, however, in the Calle Corrientes under private management.

The Colón is an admirable building and the citizens are justifiably proud of it; allowing for the difference between stone and cement, no European capital has anything finer. Opposite it the Law Courts are no less imposing, being conceived on a generous scale and carried out with great thoroughness of detail; six columns of almost Assyrian massiveness support the façade.

During this haphazard ramble numbers of unconnected details will have registered themselves upon the brain: the prodigality of statues, the excess of men in the

streets and the dull uniformity of their soft hats, the amount of new building going on, the bad paving of the sidewalks, roadways and so on; and one's confused impressions may need a day or two in which to sort themselves out. But even in the long run one is still obsessed with a curious sense of inequality, due to the sudden growth of the city and the absence of any settled canons of taste. Take a trip out to Flores or some such suburb, and the impression is the same; charming country residences are set amid equally charming gardens, but every here and there an atrocity in the most garish colours presents itself. Barcelona is the nearest European approach to Buenos Aires that I know.

As for the occupations of the citizens, little has been said of places of amusement hitherto; and this is not to be



CRAMPED SPACE IN CALLE FLORIDA

Along the tram-free Calle Florida all the world of fashion paces during the hours in the afternoon when the traffic is stopped. A roadway wider than Bond Street, and this is the busiest thoroughfare of a city of teeming millions

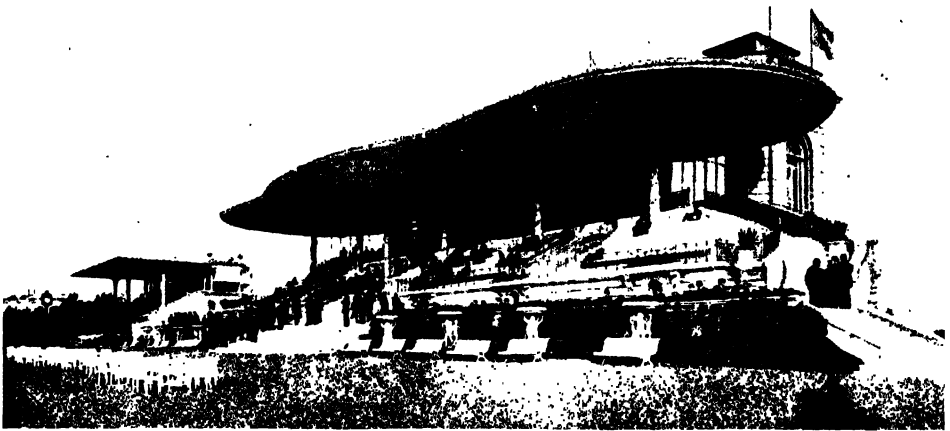
wondered at, for it is a fact that the pursuit of the dollar is a fever which has Buenos Aires in its grip. We have, however, taken a glance at the fashionable crowd enjoying itself with surprising solemnity in Palermo, and if we had gone a little farther we should have come upon the Hipódromo Argentino, one of the largest and best appointed racecourses in the world. But even here there is little genuine gaiety and interest is centred chiefly on the betting, which is conducted on the "pari-mutuel" system; certainly there is no such parade of fashion as one sees at Ascot or Longchamps.

Of good restaurants, too, there is not a great choice; in fact one might

almost say that there is no "night life" in Buenos Aires as that is understood in other capitals. Things certainly happen at night in the Paseo de Julio in which it were best not to be mixed up, but the world of fashion is emphatically not abroad. This may, in part, be due to the almost Moorish seclusion in which the Argentine woman dwells, a social feature that looks like a throw-back to conditions that prevailed in Spain long before Argentina was colonised.

Beyond the Hipódromo are a golf course, tennis courts and a riding track, all good. The first two are patronised

particularly being used with a fine lavishness as we have noted. The city is the principal terminus for most of the trunk-lines of the country; the passenger station of the Southern Railway at Plaza Constitución is particularly fine, while that of the Central Argentine and the Buenos Aires and Pacific at Retiro will challenge comparison with the best in Europe. Manufactures are not of prime importance, the business of the city being chiefly the export of the pastoral and agricultural produce of Argentina, but there is a steady growth in many branches of industry.



R. N. A.

JOCKEY CLUB ENCLOSURE AT THE BUENOS AIRES RACECOURSE

In an angle of the Parque 3 de Febrero ("Palermo") and reached most conveniently by way of the Avenida Alvear is the Hipódromo, or racecourse, the resort of vast crowds more interested in backing a winner than in the form shown by the horses. This great private pavilion, with its sweep of awning supported on over-ornate pillars, is reserved for the members of the Jockey Club

by natives as well as members of the British and American colonies, as your Argentine is keenly emulative of the British in their national sports; but the resident Anglo-Saxons are naturally to be found in numbers there. With their various clubs and institutions (there is even a prosperous little fishing club which goes out after that salmon of the south, the dorado), these latter are more exclusive than other immigrant colonies, of which the Italians form the most numerous group.

Buenos Aires is provided with an excellent water supply and its sanitation system, only completed in 1892, is also good. Both gas and electricity are generated, the electricity in par-

All told, then, Buenos Aires offers most of the advantages and many of the defects of a growing city; even if its population be now stabilised, there are plenty of opportunities for internal growth, or rather development. But the climate is definitely not all that is claimed for it; even with the sweltering days of summer (which begins in November) the mean annual temperature is only 64° F., so imagine the winter-cold necessary to restore the balance!

And yet, in spite of damp and chill, there is usually a certain brisk sense of well-being about the climate which justifies the name given by the first colonists from Spain: "Santa Maria de Buenos Aires"—"of good airs."

BUKAREST

Rumania's Capital, a "City of Delight"

by Florence Farmborough, F.R.G.S.

Traveller, Linguist and Authority on Modern Europe

BUCUREȘTI, as the capital and chief city of the Kingdom of Rumania is called in the language of its own people, is situated in a fertile plain in the department of Ilfov on the banks of the Dimbovitza, a modest affluent of the mighty river Danube. It is the residence of the king, the seat of government and the financial, commercial, judicial and ecclesiastical centre of the country. The name is derived from that of a legendary shepherd, Bucur, who, it is claimed, built the quaint little church—the nucleus of the city—still standing and venerated generally as Biserica Bucur.

The Bukarest of to-day, built on generous and highly-finished lines and covering with its suburbs an area of more than 20 square miles, is rife with historical associations and, despite many vicissitudes of fortune, overflows with animation and the joie de vivre so natural to southern climes. It is a colourful, bright capital, a centre of refinement and culture, of taste and aesthetic elegance.

Green Beauty of the Garden City

The irresistible charm of Bukarest has inspired many a writer and bard; nor has the somnolent stream that winds through it been forgotten

"Dâmbovitza, apă dulce,
Cine bea nu se mai duce!"

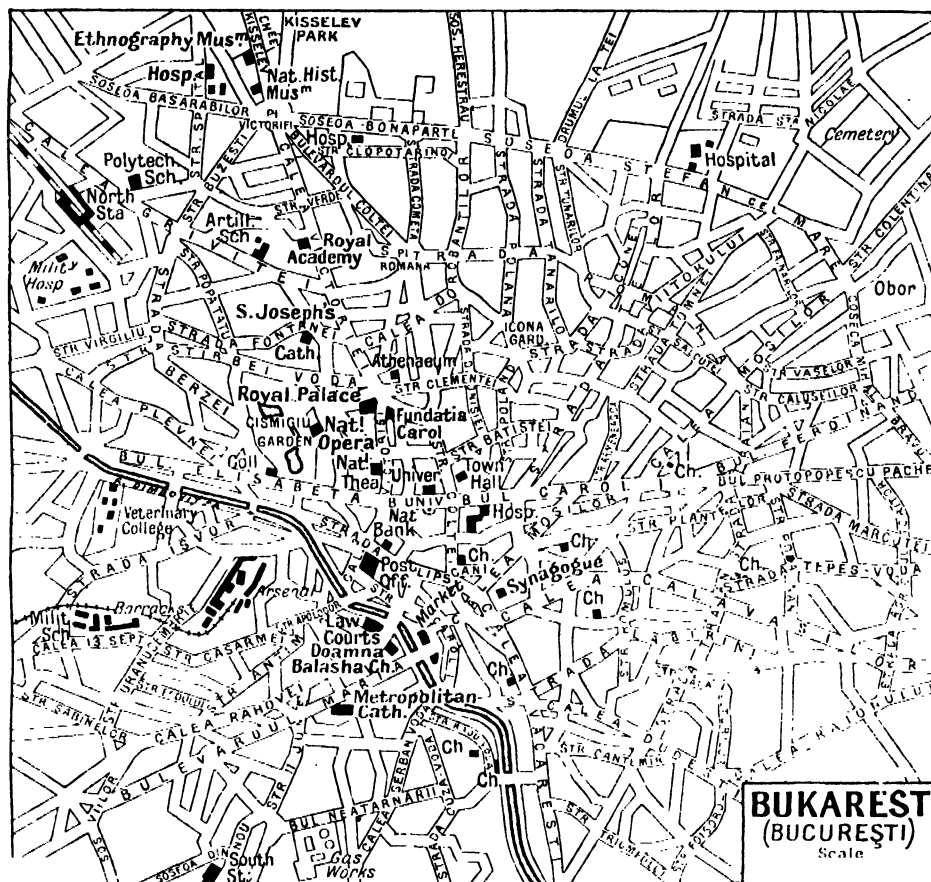
"Dimbovitza, sweet water, whoever drinks does not depart!" Travellers catching a glimpse of the city from afar retain a memory at once delightful and ineffaceable. A garden city it appears, decked and garlanded with luxuriant foliage, out of the midst of which rise gables, turrets and house-tops

of varying architectural contour. Here some fine palatial structure, there a stately cathedral, meets the eye; or it may be a massive government building or, again, a church of delicate and artistic moulding, whose gilded cupola, like an inverted bowl of gold, glistens resplendently in the bright sunshine that floods the country for six months out of every twelve.

Mirror Reflecting East and West

Like a radiant jewel the city lies in the soft, subdued setting of the Wallachian plain. Within its walls are commotion, movement, activity and bustle—life vociferous and laughter-loving; for who can boast a lighter heart or gayer mien than the young city-born Rumanians, whose ready smile, happy temperament, courtesy in manners and fiery enthusiasm vividly suggest the verve and high spirits that mark their kinsmen of western Europe?

And yet everywhere innumerable contrasts present themselves. Strong conflicting influences of East and West are still at work, and considerable diversity of race and nationality prevails among the population numbering some 550,000 persons. Modernism and medievalism struggle for supremacy; mansions and hovels stand side by side; but all is in keeping with the motley character of the people, and it has been aptly said that Bukarest is "the mirror reflecting faithfully every image in turn of this old-new border country," Rumania. Among the street types is a marked foreign element. Itinerant peddlars from the Orient ply their trades—fruits, sweetmeats, utensils and diversified bric-à-brac may be bought for a few "bani"—their weird cries adding to the confused jumble of street sounds.



PLAN OF BUKAREST. "THE LITTLE PARIS" OF THE BALKANS

A gipsy face, with bold, flashing eyes and glistening white teeth, stands out from time to time, unmistakable and distinct even among the black-haired, dark-eyed Rumanian race; or there drives by, in quaint typical garb, a Lipovan coachman of the Skoptsi sect—a body of Russian religionists who, many years ago, took refuge from persecution in Rumania.

As in other countries of south-east Europe, it is the peasant who preponderates in Rumania, accounting for over 80 per cent. of the population. In Bukarest itself, however, very few are to be seen; they belong to the land and are dazzled by the brilliance of the city. They stand somewhat in awe of it, too, since it is, as they are aware, the meeting-place of Parliament where the

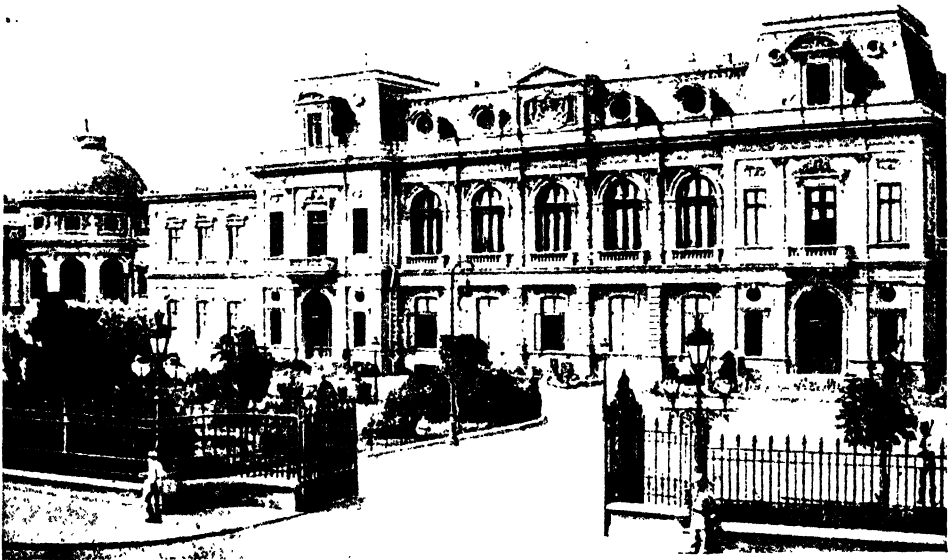
laws of the land are framed and fixed. They understand that townsfolk incline to look down upon the peasantry and their pride causes them to fight shy of a life spent amid so much ostentation and wealth. For Bukarest is an opulent city, as a walk along its most popular thoroughfares will instantly prove. There is the Calea Victoriei (the Road of Victory, commemorating the triumph at Plevna in 1877, when Rumania broke away from Turkish rule), with its rows of handsome houses, and attractive shop windows; and there is the Chaussée, a favourite drive traversing the Kissilev Park, a "little sister of the Bois de Boulogne." Either of these will display various aspects of high life justifying the sobriquets of "Little Paris" and "City of Delight."

The "Little Parisians" are, in fact, only too pleased to present to the world a replica of the great Western city they love so well. To them Paris stands for everything that the Latin race with its restless spirit could possibly desire. It is from Paris they draw much of their inspiration; their legislation is patterned on French institutions; their intellectual leaders, high officials, statesmen and others who can afford it are educated at the French capital. Nevertheless, however potent the French ascendancy, traces of Hellenic influence still rest lightly on the Rumanians of the upper classes.

Much of their light-heartedness is probably a heritage that comes with the Greek blood running in their veins, or the outcome of long association with Greeks who, it should not be forgotten, hundreds of years before the Christian era were not only highly civilized and cultured but the play-children of the world, taking everything as they found it and looking upon life with wide-open, pleasure loving eyes. Not that the Rumanian character has been moulded

to any great extent by Greek dominance, but it is true that many members of the aristocracy have not drifted far from the social formulæ promulgated by the Greek hospodars of the Phanariot regime. Yet, in spite of this, they pride themselves upon their Daco-Roman origin and ardently echo the words of "Childe Harold" "Still we Trajan's name adore."

Varied and prepossessing as Bukarest's buildings are, they fail on a close inspection to exhibit many architectural merits, though there are several very imposing public structures which any Western city might be justly proud to own; as, for example, the Athenæum with stately Ionic façade and Byzantine dome; the Post Office with its handsome entrance leading into marble halls; the new Palace of Justice and other government institutions; and there is a number of fine churches, hotel, and restaurants. Fringing the narrow, winding streets are many old-fashioned brick dwellings, mostly of one story and with metal roofs. Some of these wear a coat of decaying plaster decorated with



TOWN RESIDENCE OF THE KING AND QUEEN OF RUMANIA

Unlike the magnificent modern villas of the wealthy aristocrats of Bukarest, the Palatul Regal, or Royal Palace, standing off the Calea Victoriei, is a long, low structure of unimposing appearance. The interior, however, is of great beauty, both private and state apartments being furnished with exquisite taste and embellished with elaborate wood-carvings and many art treasures.



LEGENDARY FOUNDATION STONE OF BUKAREST

Local tradition claims this quaint little church, called Biserica Bucur, as the nucleus of the city of Bukarest and ascribes its foundation to one Bucur, a Rumanian shepherd; its mysterious origin tending to support the romantic legend

fantastic terra-cotta designs. The Royal Palace is a long building of unpretentious aspect, but the old Palace of Cotroceni, just outside the city the favourite town residence of the royal family, is an extensive and artistic mansion standing delightfully amid well-wooded grounds. The supreme charm of Bukarest, however, is its magnificent and well-kept public gardens abounding in beautiful trees, which, combining with the greenery of the boulevard and the poplars and acacias by which many of the private houses are surrounded, impart a singularly refreshing and attractive feature to the landscape.

There must be nearly two hundred churches, belonging for the most part to the Greek Church, which is also the State Church; but complete religious

freedom is accorded to every creed—Roman Catholic, Protestant, Jewish, Mahomedan, Armenian and Lipovan. Specially noteworthy is the cathedral, where the Metropolitan of Rumania, who resides in Bukarest, has his throne. This spacious building, in the form of a Greek cross, is usually filled to overflowing with reverent worshippers, for the Rumanians, especially the humbler classes, hold fast to religion.

Set on a hill, a fortunate site chosen in 1656, the cathedral commands a fine view of the city and of the wide plain beyond. The building itself, restored in 1830, presents a distinctly noble and dignified appearance; nevertheless, it seems to lack something of the calm spiritual beauty which attaches itself to the Roman Catholic Cathedral of S. Joseph, an inspiring

place of worship erected between the years 1875-84. Another beautiful sanctuary, famed for its ornamentation, is Doamna Balasha, so called after its foundress, a member of the old Brancovan family, whose statue stands among the trim flower-beds surrounding the church. No less worthy of note is the church of Stavropoleos, almost hidden in a quiet corner near the Post Office—an exquisite example of Byzantine architecture dating from the eighteenth century, with a fantastic portico of twisted columns.

In recent years the city has witnessed considerable industrial expansion. Textile interests have been promoted, in spite of the fact that raw material has to be imported. Flour-milling, owing to its importance, is well developed;

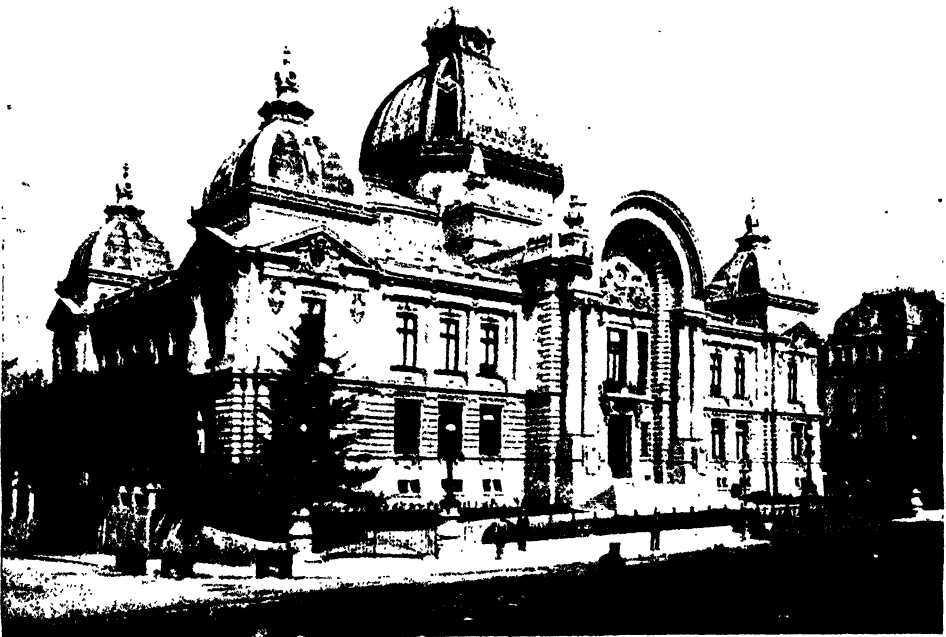
metallurgical industries are, however, worked on a small scale only; the making of bricks and the art of pottery—a primitive industry widespread among the peasantry—are being carried on in accordance with modern requirements; and chemical enterprise is making some progress. Bukarest, being the distributing centre of the oil industry, has several petroleum refineries, also some large breweries and a glass factory. There is an important transit trade in timber and agricultural produce, and mention should also be made of some small manufactures in paint, varnish, leather, soap and paper.

Since the Great War, British goods, mainly woollen and linen, have found their way into Bukarest and have met with a ready market, which, incidentally, has benefited the business of the long-established Bank of Rumania, Ltd., a British concern with an excellent reputation among the Rumanians. Many of the 44,000 Jews enjoy consider-

able prosperity; the bulk of the retail trade is in their hands and the shops in Strada Lipscani and other streets belong exclusively to Hebrew merchants. A few enterprising members of society have stores of their own; the shop of Prince Stirbei opening on to the fashionable Calea Victoriei is famed for its wine and butter, both produced on his country estate.

Encircling the city, some five miles distant, is a ring of fortifications erected by Brialmont, the Belgian architect, in 1885 at a cost of £4,000,000. These defensive outworks, magnificent as they are, were nevertheless doomed to play an ineffective rôle in the protection of Bukarest during the Great War.

Geographically, Rumania's capital has few advantages, yet its position south of a very fertile region has encouraged its growth and development in no small degree. Railway lines give access to all parts of the country and by means of the Wallachian trunk line—the only line in



Cultura Nationala

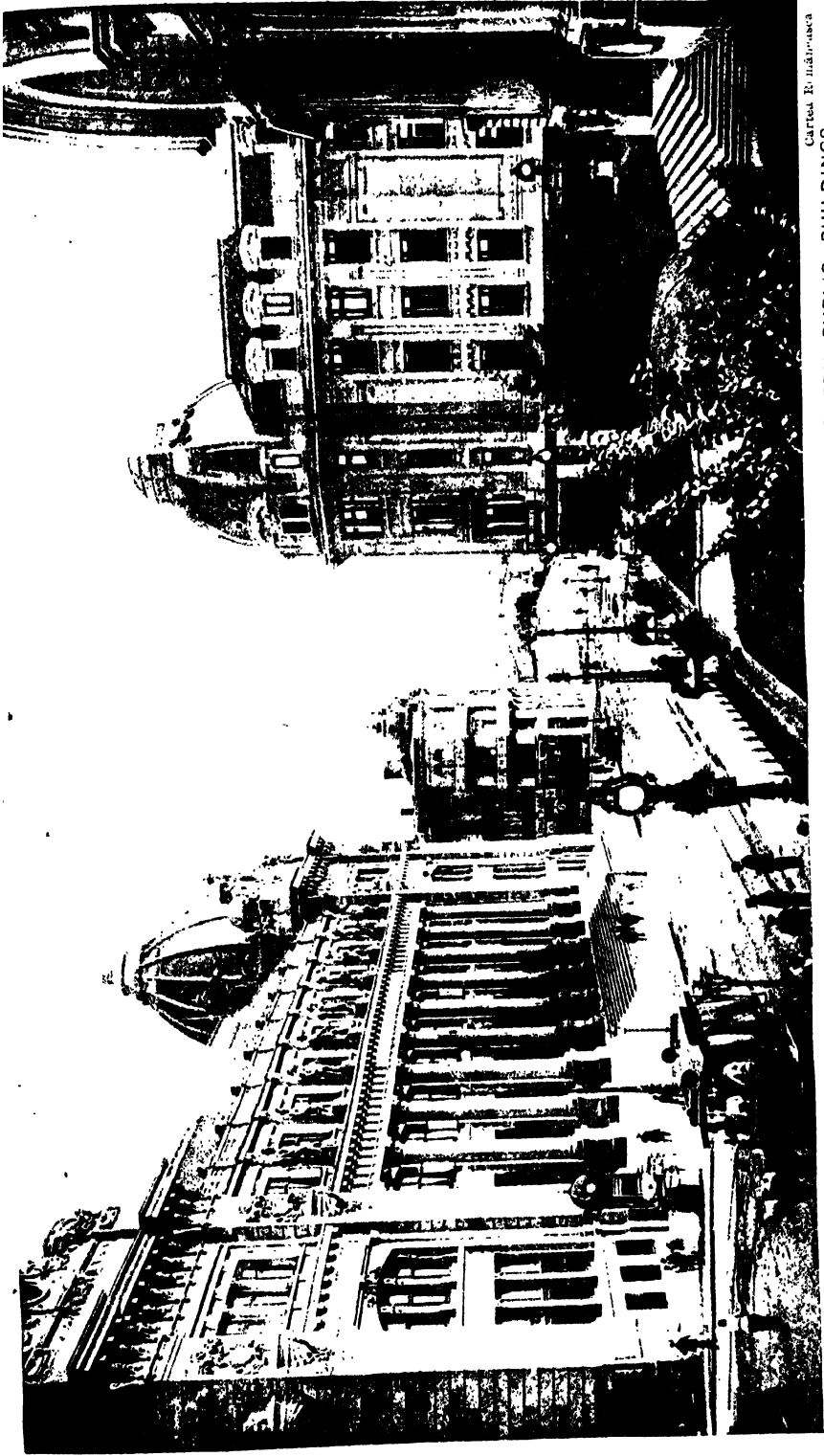
DEPOSIT BANK, A PUBLIC CREDIT INSTITUTION OF BUKAREST

Like many another modern building in the Rumanian capital, the Cassa de Depuneri, or Deposit Bank, situated opposite the Post Office, is characterised by the harmony of its dimensions and by its rich decorative design. As a deposit and consignment bank it was originally created to hold voluntary, judicial and administrative deposits; a savings bank was attached to it in 1880



Carcea Românească

EXTENSIVE SURVEY OF THE RUMANIAN METROPOLIS FROM THE LOFTY DOME OF THE DEPOSIT BANK
Bucharest is built about the river Dimbovitza, a tributary of the Danube, to the south of the fertile Wallachian plain. It is an important educational centre and though not very rich in manufactures, has a large distribution of trade and is the nucleus of the main railway systems of the country. Decidedly colourful and attractive as a city, it has a certain charm of its own, for, despite its situation on the borders of the Orient, the city teems with modern vivacity and is a gateway and highway to the great cities of Europe.



Cartea E. Indrăgescu

MASSIVE AND WELL-PROPORTIONED POST OFFICE · ONE OF BUKAREST'S MODERN PUBLIC BUILDINGS

Although the Oriental aspect of Bukarest has not entirely disappeared, the numerous imposing edifices which have been erected within recent years give it an essentially modern and Western air. On the left of the photograph is seen the stately façade of the Post Office, one of Bukarest's most handsome buildings, to which access is given by a broad flight of steps; the interior is no less impressive and the spacious halls are truly Olympian in their marble grandeur. The arched portal on the extreme right is the entry to the Casa de Depuneri (Deposit Bank), while in the large building beyond is the Bank of Rumania, Ltd.



Cultura Nationala

FAVOURITE HAUNT OF THE BIBLIOPHILE: SECOND-HAND BOOKS FOR SALE IN A STREET OF BUKAREST

B the side of the river Dimbovitza a long line of bookstalls may be seen in the open air. These are the second-hand book markets, where the collector is not infrequently rewarded for his patient search by a really valuable "find," in some rare old volume to be picked up for next to nothing

Rumania to cross the Danube —there is direct communication with Constantza on the Black Sea. Maintained by the state are several main roads radiating from the city to neighbouring towns, while a well-ordered telephone service links up with Jassy, Braila, Galati, and various other localities.

With the whole of the Wallachian plain, Bukarest is subject to exceedingly hot summers and cold winters. Society escapes the intense heat by migrating to the country and Sinaia, on the eastern slopes of the Transylvanian Alps, sees annually an influx of fashionable visitors. Then only does Bukarest belie its reputation as a city of gaiety, and a dull apathy pervades the almost lifeless streets. The hottest month is July and the coldest January—the mean temperatures for these two months being 73° F. and 25° F. respectively. June is the wettest month, with a mean rainfall of 3.33 inches out of an average for the whole year of 22.74 inches.

The surrounding marshlands, now thoroughly drained, were formerly the occasion of constant visits of malaria in epidemic form; but one of the first acts of the late King Carol after accepting the throne was to initiate a thorough reconstruction of the primitive sanitary conditions he found in his capital. The narrow streets, badly lighted and paved roughly with stone blocks, have been covered with wood or granite, and several thoroughfares are well-lighted with electricity or with incandescent lamps.



DOMESTIC SERVANTS' MARKET ON THE BANKS OF THE DIMBOVITZA

Many of the housewives of Bukarest when in need of extra domestic help in their homes go to the special corner of the Dimbovitza, sometimes known as the Servants' Market, where willing hands may always be found ready to brush, sweep and clean for a small wage. A notable feature of this market is that each candidate for domestic service provides her own brush.



CARPET-SELLERS DISPLAY THEIR WARES IN AN OPEN-AIR MARKET

The carpet industry is a popular one in certain parts of Rumania among the peasantry, many of whom are singularly expert in this beautiful and effective handicraft. The spinning and dyeing of the wool are done in the country huts and despite the primitive method of manufacture many of the carpets are exceedingly attractive. In some families a particular design is a monopoly.



ELIZABETH BOULEVARD, AN IMPORTANT ARTERY OF BUKAREST

The Elizabeth Boulevard is a fine broad thoroughfare, with trees planted on either side, that runs from the neighbourhood of the Palace at Cotroceni, situated to the west of Bukarest, right into the centre of the town. An effective electric tram service and some of the best shops are to be found in this street, which ranks second in popularity to the Calea Victoriei.

Electric trains ply up and down the Elizabeth Boulevard and though the motor omnibus has not yet arrived, light taxicars, seating half a dozen persons, are running between the post-office and the Chaussée.

There is complete liberty for the Press. Newspapers, reflecting the views of different political parties, are many and varied and together with bulletins number 114 in all. Of these sixteen are printed in foreign languages including French, Greek, Hungarian and Armenian, also one in Russian and in Yiddish. For Bukarest's first printing machine Matthew Bassarab, the native ruler, was responsible, and his collection of Canon Law was the first book printed (Bukarest, 1640) in the Rumanian language and on Rumanian soil; less than fifty years later the Bible appeared, translated from Slavonic into the vernacular of the country.

Educational opportunities are numerous. As well as a university, there are several lyceums, gymnasia, girls' schools and technical and military colleges. The university, founded in

1864 three years after the city had been recognized as the capital of Rumania, is under the control of the state, possesses faculties of theology, philosophy, science, law, literature and medicine, and has over 100 professors and about 11,000 students. Opposite the Royal Palace and not far from the Athenaeum is the Fundația Carol, the library of the university students. Its beautiful hall serves as a lecture-room, and here for two months every year lectures on English literature are given and attended with keen enthusiasm.

The Academy of Art is well supported and art exhibitions are frequent, but music, perhaps, holds the foremost place in the affections of the people and most of the large towns of Rumania can boast a conservatoire. Excellent symphony concerts and operas draw immense houses and at many of the cafés the "lautari," the gypsy troubadours of the country, delight vast gatherings with the witchery and passion of their exquisite music. There are eight theatres, two of note—the National Theatre and the National



Cultura Nationala

CALEA VICTORIEI, THE "REGENT STREET" OF THE RUMANIAN CAPITAL
 The principal street of Bukarest is the Calea Victoriei, or Street of Victory, so called to commemorate the victory of the Rumanians over the Turks at Plevna in 1877. It intersects the town from north to south, is flanked by many fine buildings, including the Royal Palace, and by luxuriously and attractively arranged shop windows, and is the daily lounge of the fashionable world of the capital



Cartea Românească

WHERE THE HEAD OF THE RUMANIAN STATE CHURCH HAS HIS THRONE

An interesting feature of Bukarest is its large number of churches, which are crowned with an infinite variety of spire, dome and cupola. On a hill to the south of the town, dominating a fine panorama, rises the stately sanctuary known as the Metropolitan Cathedral, built in 1656 and restored in 1839, where the Primate of Rumania officiates and where all the ceremonial services are held



BEAUTIFUL EXAMPLE OF BUKAREST'S ECCLESIASTICAL ARCHITECTURE

One of the largest and most beautifully constructed churches in Bukarest is the Doamna Balasha, standing on the right bank of the river Dinbovitza not far from the Metropolitan Cathedral. It was completed in 1884 and is surrounded by numerous trees and flower-beds, among which the statue of its foundress, Doamna Balasha, is seen. It is particularly popular for fashionable weddings



WELL-KNOWN LANDMARK IN THE PARCUL CAROL AT BUKAREST

Numerous parks and gardens are found in and around Bukarest and greatly contribute to the garden-like aspect of the city. In the Carol Park, a favourite resort with an abundance of bright green shrubbery, this remarkable structure rears its head. Of somewhat bizarre appearance and known as the Vlad Tzepeș Tower, it is said to reproduce an old castle of the Wallachian prince of the same name

Opera, which are subsidised by the government; several clubs, political and social, as well as minor places of amusement. Philanthropic institutions are well to the fore. A Jockey Club provides annual horse-races, the most popular of which is a miniature "Derby." All races are attended by an exceedingly well-dressed concourse of people and usually patronised by the royal family, both King Ferdinand and Queen Marie—the latter an expert and a very graceful rider—being ardent lovers of horses.

Holidays Secular and Religious

The influence of the English Queen (for Marie is a granddaughter of Queen Victoria) is also felt in the Country Club on the outskirts of the town, where the "jeunesse dorée" can spend the fine days practising outdoor sports and pastimes.

Of religious festivals the greatest in the Greek Church is Easter, and an important service is held annually on the "name-day" of S. Demetrius, the patron saint of Bukarest, whose mummified body reposes in its silver casket in the cathedral and in time of drought is carried with much ceremonial round the city. Apart from these feast days, the great national holiday takes place on May 10, commemorating the accession of King Carol in 1866. Other important popular holidays seem for the most part to have merged into this one.

Bukarest in Festive Guise

The city glowing with the Rumanian colours, red, blue and yellow, enters whole-heartedly into the proceedings; brilliant illuminations attend the evening celebrations and the merriment continues far into the night.

Indeed, Bukarest of to-day wears much the same aspect as it did before the Great War. Once again dapper officers and smart civilians, obtrusively well-groomed, stroll along the Calea Victoriei and the Boulevard in attendance on handsome ladies, superbly attired and often displaying fastidious

taste wherever the art of cosmetics has scope. Nevertheless, beneath all this "blatant and banal follies of society"—what society itself delights to call—the restless spirit of the age—is the sobering knowledge that a great crisis has been passed through. Only a few years ago the very fabric of the nation's existence had almost perished. A momentous lesson has been learnt; the Rumanians are the better for it.

To-day among ministers and officials, as well as among the lower ranks of the public service, a higher standard of excellence is apparent and a genuine anxiety to labour for the welfare of the country. Even Capsha, the inimitable café and pastrycook establishment, once the fashionable centre of society's gossip, now welcomes a more sober and thoughtful element.

Intellectual Influence at Work

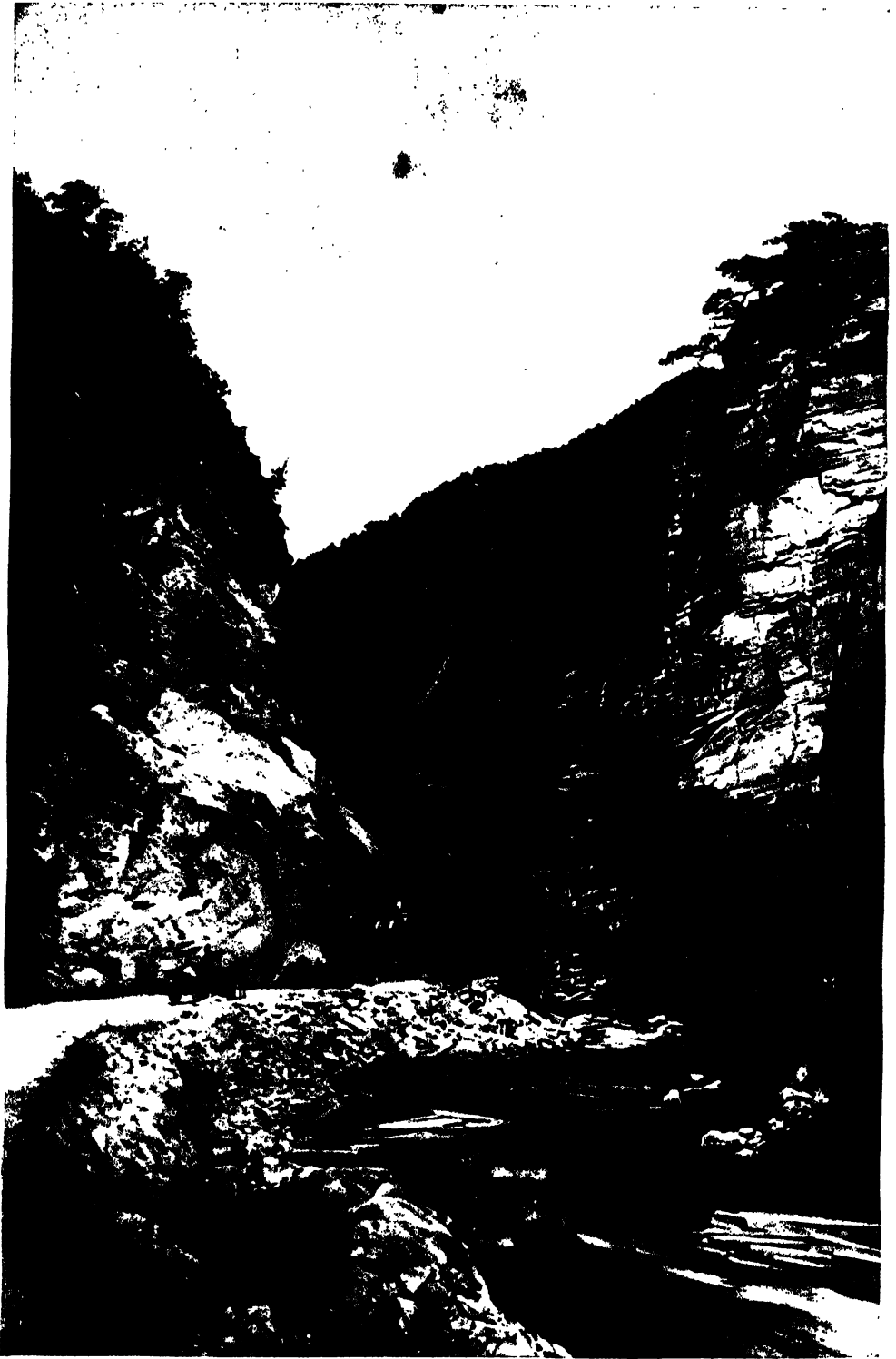
Here the literary genius of the city gathers to discuss the problems which the promoters of Rumanian literature, George Lazar and John Heliade Radulescu, whose statues are to be seen in Bukarest, discussed a hundred years earlier. Poets, writers and would-be men of letters are there, all intent on the development of intellectual talent and on the encouragement and safeguarding of the native language.

And Bukarest with all a mother's careful cunning adapts herself to her children's needs. She is in the East, yet not of the East, for she is modern, free-minded, tolerant, progressive and wholly Western in her tastes and ambitions. To the new school that is arising—the school of scholars and thinkers—she will give every encouragement; for here she finds the living spirit of the nation and hears the true voice of her people. With remarkable ingenuity she is effacing the disfiguring scars which her conquerors, the lethargic Turk and fatalist Slav, sought to imprint upon her and despite strong alien influences remains true to the original culture and mentality of the Rumanian race.

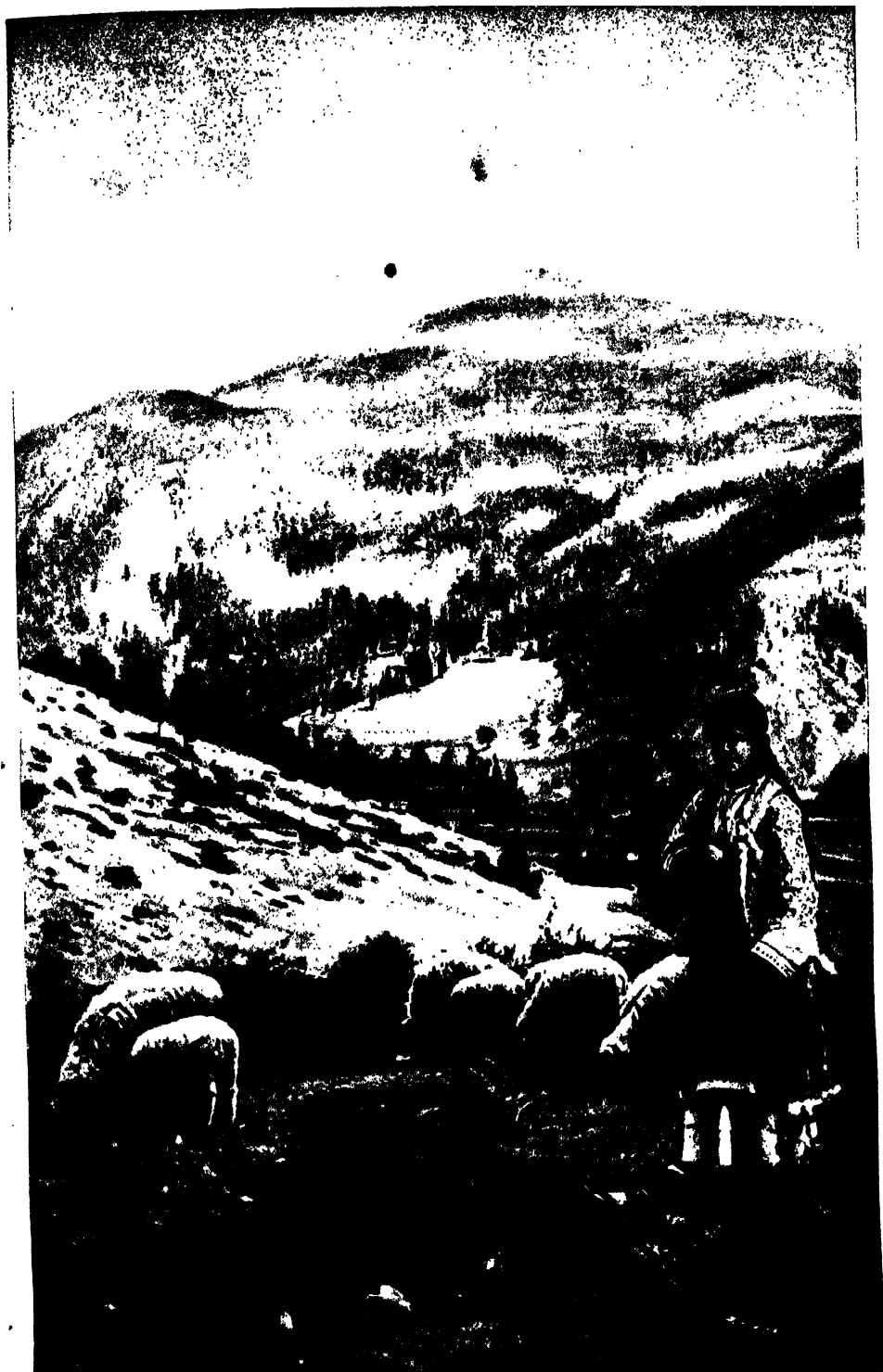


L. G. Popoff

BULGARIA. *In a beautiful beechwood valley of the Rila mountains is the Rila Monastery, which can shelter two thousand pilgrims*



BULGARIA. *Carving a gorge in the north slope of the Rhodope range the Elli Dere carries down lumber felled on its cliffs*



BULGARIA. It is but rough pasture in the Isker valley, where the Sofia-Plzeň railway follows the stream on its winding way



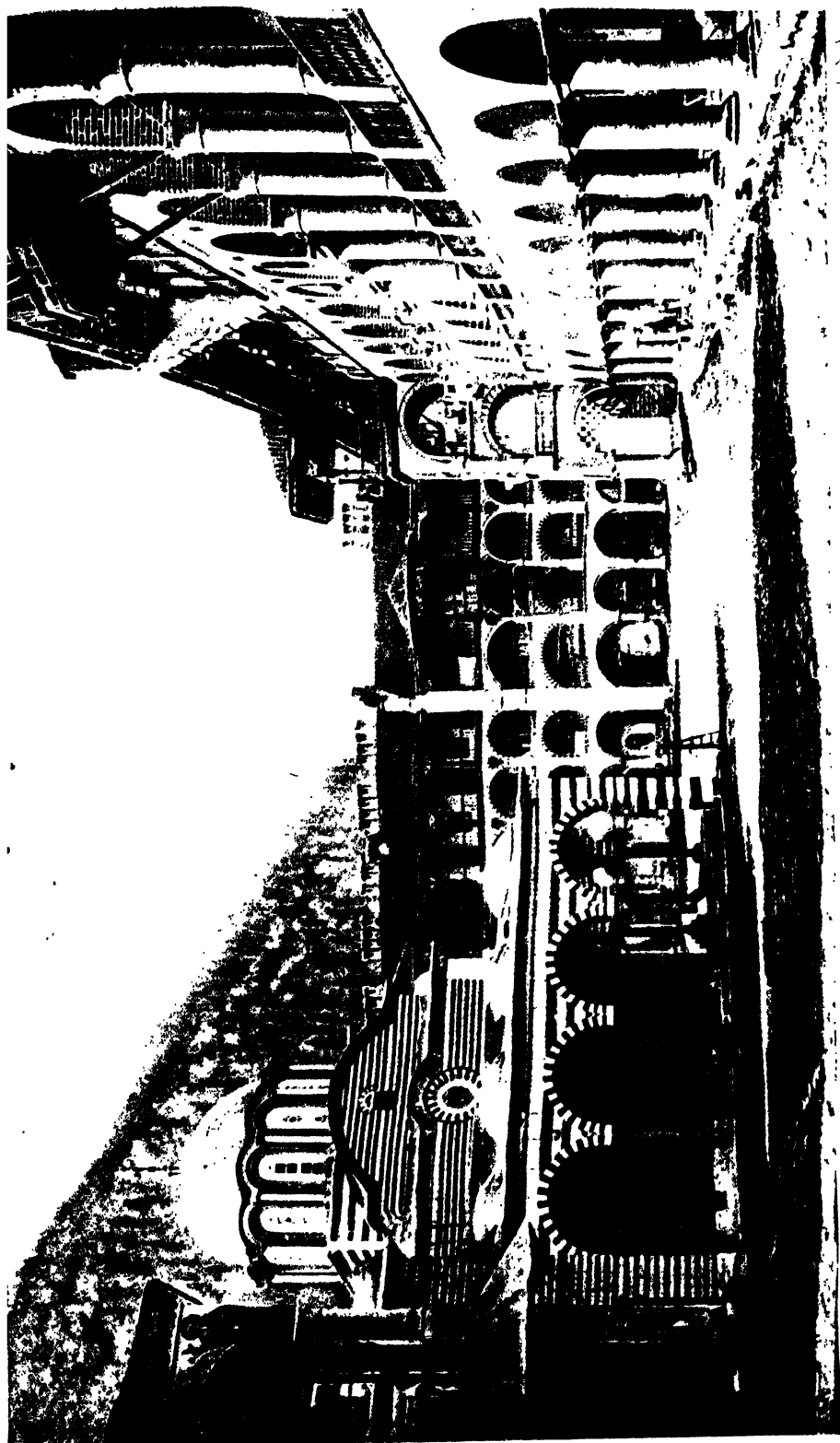
BULGARIA. *Perpendicular limestone cliffs line the defile into which the river Isker, flowing northwards, turns after leaving the plain of Mezdra.*



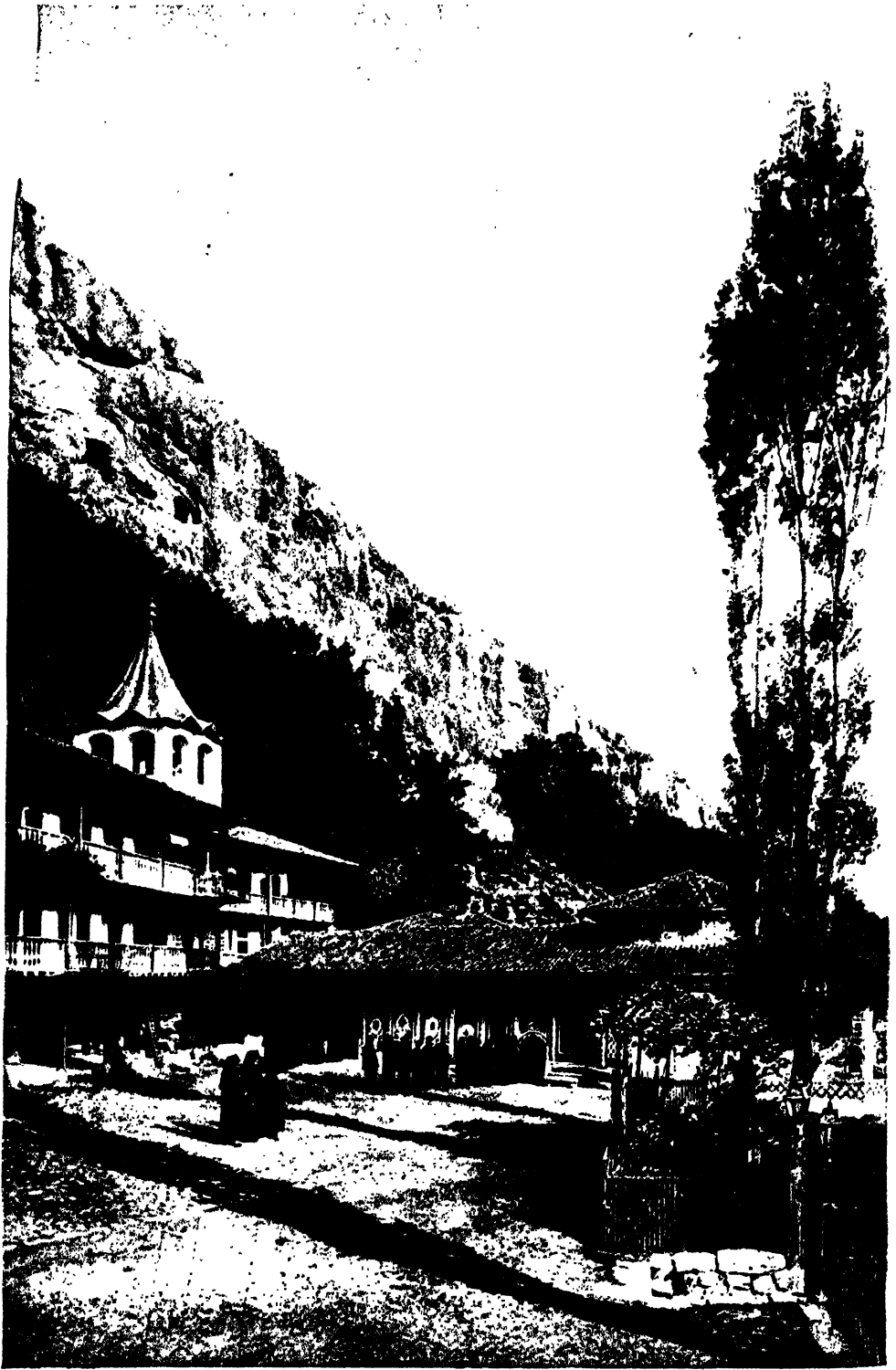
Here at Karlukovo, where it is first fordable, the railway follows its
erpentine course at the foot of stern crags topped with hardy vegetation



BULGARIA. Wodder-ecorn as this waterside quays is almost to the point of tumbling down, Coblenz in the cultivated valley of the Rhine. The hillside is built up with quite tiny about 200,000 wells.



BULGARIA. Most of the Rila Monastery dates from the early nineteenth century, though St. Ivan Rilski, to whom it is dedicated, had his cell there a thousand years before. The monastery numbers about two hundred



E. N. A.

BULGARIA. "Black Clergy," monks of the Greek Orthodox Church,
inhabit the monastery at medieval Tirmovo by the Yantra

BULGARIA

Its Rose Gardens and Wooded Vales

by Frank Fox

Author of "Bulgaria," "The Balkans," etc.

BULGARIA, as a modern state, was created by the Treaty of Berlin (1878), but in the thirteenth century was a power which rivalled the Byzantine Empire and at one time held all the Balkan Peninsula from Adrianople to Durazzo. It has shared fully the tragedy of that peninsula, which has stood in the path of all the great racial struggles between European and Asiatic and was doomed to further disasters by the decision of the Roman Empire to come from its seat in Italy to die there — a long drawn-out death of many agonies. To understand Bulgaria it is necessary to understand this Balkan Peninsula, inhabited by odd scraps of races and relics of empire, full of passionate jealousies and blood feuds.

The leading facts of Bulgarian history affecting its status to-day are these. In the thirteenth century Bulgaria was for a little while the dominant power in the Balkans. Early in the fourteenth century the country was subjugated by the Serbs. Then the Turks invaded the peninsula and were helped to some extent by the Bulgarians. At the end of the fourteenth century Bulgaria was a Turkish province, and remained so until the nineteenth century.

Vicissitudes of Victory and Defeat

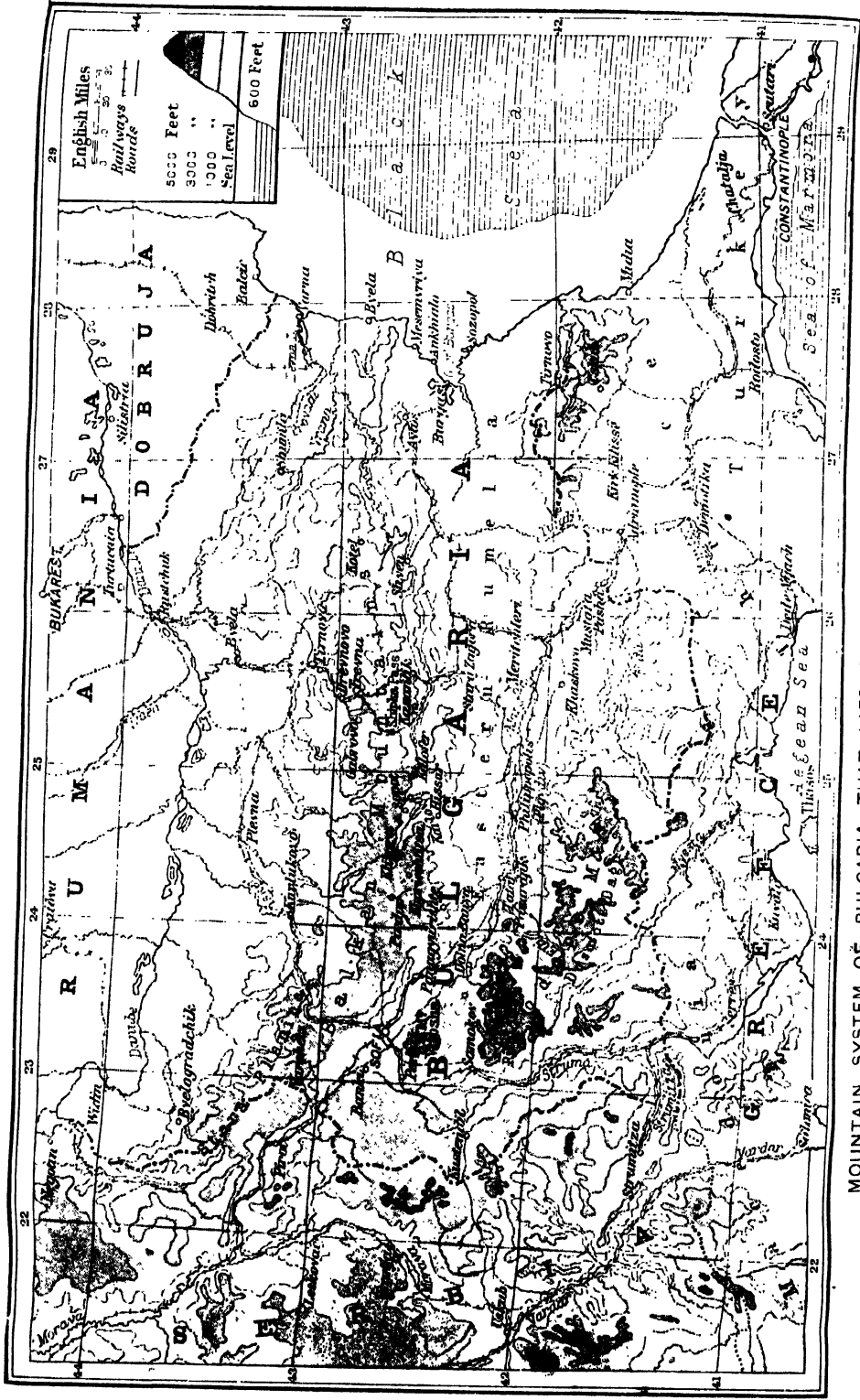
After a war between Russia and Turkey Bulgaria gained independence subject to paying tribute to Turkey. The area of Eastern Rumelia — which was ethnologically Bulgarian — was constituted a separate province. In 1885 Bulgaria annexed Eastern Rumelia and a war with Serbia followed, in which Bulgaria was victorious. In 1912 Bulgaria was a partner in the victory of the Balkan Federation over Turkey

and largely extended her area; she quarrelled with her allies and in the subsequent war lost territory to Turkey and Rumania, as well as to her allies. In the Great War she fought on the side of Germany and lost further territory.

Mountains as Factors in History

Bulgarian boundaries to-day therefore are not acceptable to the nation's ambitions, nor convenient to its economic needs. But taking them as they stand, Bulgaria is chiefly plateau or plain land crossed by two lofty mountain ranges — the Rhodopes and the Balkans. On the north it is bounded by the Danube; formerly an artificial frontier cut down from the river to Silistria to the Black Sea coast. By the cession of territory to Rumania in 1913 this artificial frontier took a more southerly course 30 miles from Rusteluk and reaches now to a point just north of Varna. The coast of the Black Sea bounds Bulgaria on the east, and she has there two ports, Varna and Burgas. On the south the frontier is European Turkey and Greece, on the west Serbia. The Balkan Mountains and the Rhodope Mountains run roughly east and west — the former almost in the centre of Bulgaria, the latter near the Greek border.

The mountain system of the Balkan Peninsula, and of Bulgaria in particular, with its passes has profoundly influenced its history. There are two great high-roads from Constantinople to the plains of central Europe, one following the course of the river Maritza as far as the basin of Sofia and then continuing along the course of the river Morava to Belgrade on the Danube; the other crossing through the basin of Sofia and



MOUNTAIN SYSTEM OF BULGARIA THAT LIES BETWEEN SERBIA AND THE BLACK SEA

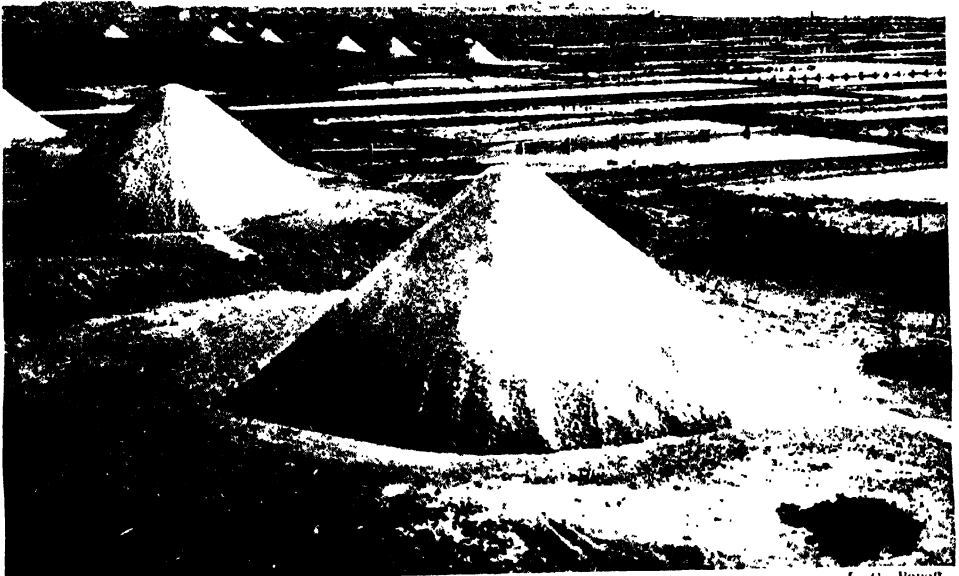
Plevna to the Danube many miles nearer its mouth. By these routes, probably, the men of the North came down in prehistoric times to the Mediterranean littoral to infuse a new vigour into the peoples of the Minoan civilization and with them to found the Greek culture. By these routes certainly the Turks pushed up to the walls of Vienna in the Middle Ages. By these routes later the Germanic peoples aimed to penetrate to the Mediterranean and establish an empire from Berlin to Bagdad. At present both routes are followed by railway lines. The "Oriental Express" passes through Serbia to Sofia and thence to Philippopolis and Mustafa Pasha across the Chatalja valley to Constantinople; a trans-Bulgarian line north to south runs from the Danube past Plevna to Sofia and the valley of the Struma.

The Bulgarian mountains abound in medicinal springs of various kinds. Some

of the most important have been used in a primitive fashion since the Roman times and under the Turkish rule. Recently the mining section of the Ministry of Commerce and Agriculture has succeeded in developing the mineral springs at Sliven, Banki, Varshetz and Meritchleri; modern health-resorts have been built at Banki, Varshetz, Hissar and Meritchleri. There are, in all, more than 200 hot and mineral springs in Bulgaria in some eighty different places. In the department of Sofia there are twenty-three, the hottest of which is Dolna Banya. The town of Sofia itself possesses very good hot springs, and the municipality has built public baths.

In the vicinity of Burgas there are the baths of Aytos, the waters of which were famous in remote times and have a temperature of 105° F.

The valleys and plains of Bulgaria are watered by tributaries of the Danube, by tributaries of the Maritza and the



L. G. Popoff

SALT-MINES OF ANKHIALO ON THE BULGARIAN COAST

The town of Ankhalo, or Ahillo, near the Gulf of Burgas, stands on a rocky outcrop connected with the mainland by a broad strip of sand on which numerous salt pans are found. These salt deposits have been worked from remote times and the Salt Lake is one of the most important Bulgarian lagoons near the Black Sea, its origin being partly attributed to the fluctuations of the sea itself



E. N. A.

VIEW OF THE VITOSHA PLANINA, THE MAJESTIC MOUNTAIN WALL COMMANDING THE PLAIN OF SOFIA

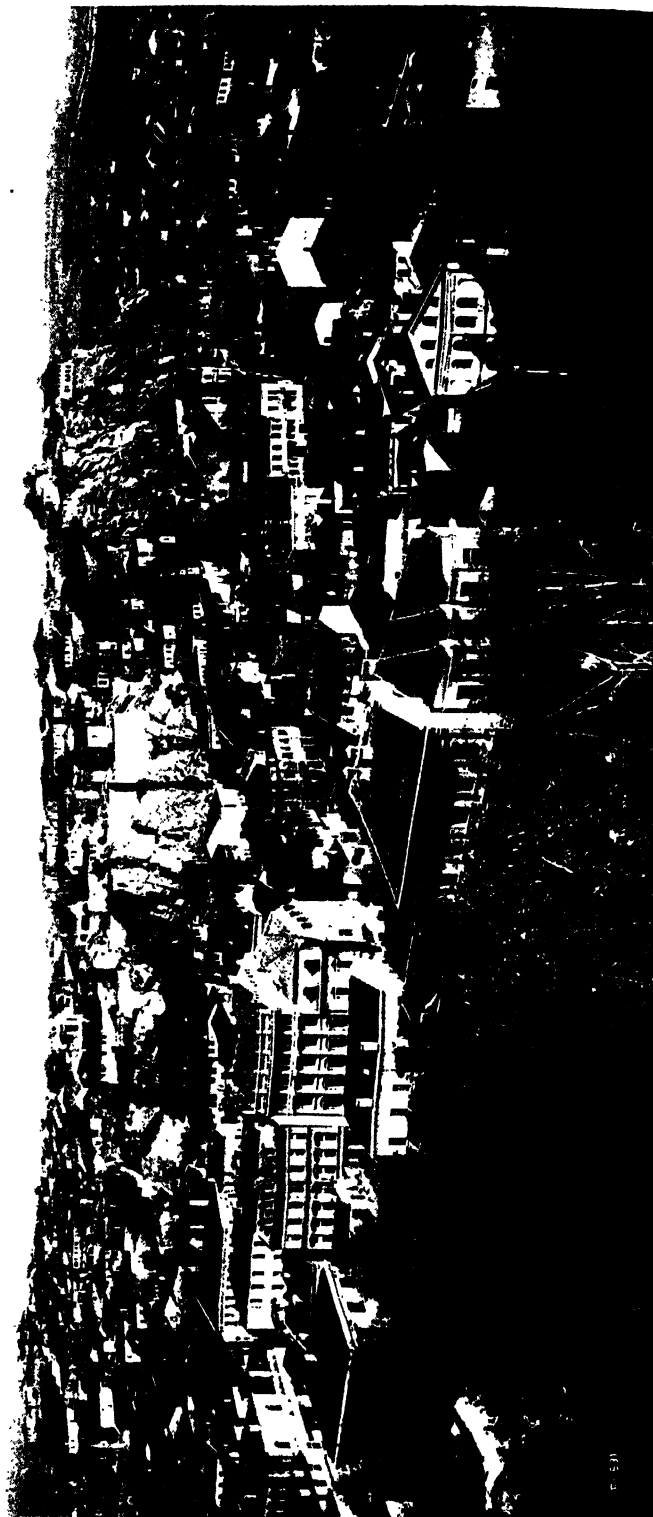
In south-west Bulgaria one of the best known mountains is the Vitosha which rises, west of the Upper Isker river, like a great rampart from the plain of Sofia, the capital of the Bulgarian State. The Vitosha Planina is 17 miles long and about 12 miles broad and attains a height of some 6,850 feet. Thick forests of spruce, fir, and larch cover the mountain, but its sides are covered with patches of snow, and the mountain is a kind of ready-made winter garden. The Vitosha Planina is a kind of ready-made winter garden, and the Vitosha Planina is a kind of ready-made winter garden.



E. N. A.

ALONG THE BEAUTIFUL COURSE OF THE STRUMA RIVER IN THE MOUNTAINOUS SOUTH-WEST OF BULGARIA

The Struma river, watering south-west Bulgaria, rises about 20 miles south of Sofia in the Vitosha Plain, traverses Macedonia and after a course of 150 miles empties itself into the Gulf of Orfani, an arm of the Aegean Sea. Swift and clear in the early year, the river is in certain parts almost dry during the summer months. Its course, winding round the slopes of the Rhodope Mountains, is followed by a road which passes through country characterised by magnificent scenery, in which mountain fastnesses, deep ravines, luxuriant forests and rich pasture-lands show nature in her wildest and most diversified moods.



GENERAL SURVEY OF PHILIPPPOPOLIS, THE STRATEGICAL AND COMMERCIAL CENTRE OF THE MARITZA PLAIN
 Philippopolis, or Plovdiv, in Eastern Rumelia, the seat of Bulgarian, Greek and Roman Catholic bishops, lies on the river Maritza amid a group of granite hills, three of which are included in the town. Numerous buildings in European style are seen during the night. Wooden houses, and the great stone bridge, are visible in the foreground. The main railway from Sofia to Constantinople, and the Balkan railway from Sofia to Plovdiv, meet at its junction with the main line from Plovdiv to Sofia. (The photo was taken by the author in 1903.)

[Struma flowing into the Aegean Sea, and by some small streams flowing directly into the Black Sea. The soil of the plains and the tableland is generally good and 70 per cent. of it is suitable for cultivation. In the mountains there are a few small lakes and many deep gorges and noble peaks, offering to the traveller the attraction of scenery wilder than that of the Alps.

For the tourist with an autumn or a spring month to spare, it would be hard to imagine a more interesting journey than to cross Bulgaria from north to south on horseback or with an ox-wagon. In the summer such a tour would be less pleasant because of the heat of the plains and the prevalence of flies; but in the autumn, of all seasons, the Balkan Peninsula has glowing charms. The climate then is perfect, usually fine, with warm clear days and cold nights. The atmosphere is full of light and colour.

Pageant of Gorgeous Colour

Sunset from the lower hillslopes is a wonderful pageant. The foothills are covered with oak scrub which with the first frosts of autumn puts on burning robes of red and gold, and as the sun goes down to rest, hung with banners of the same red and gold, there is a long-drawn-out procession of gorgeous colour.

These wild mountains abound in game which has been driven from the tamer parts of Europe—bears, wolves, jackals, wild boars, deer, chamois: and all kinds of birds, such as eagles, falcons, bustards, wild geese, pheasants, partridges, woodcock, snipe and moorhen.

The soil of Bulgaria is good in the valley of the Danube and in the valley systems (around Philippopolis and Sofia, etc.), fair on the tablelands and suitable for forestry in the mountainous districts. Of the total area of the country about one-third is devoted to crops and sown grasses, another third to timber; of the rest a proportion is devoted to rough grazing (mountain sheep, goats, pigs and oxen), leaving less than one-fourth of the total area to be classed as barren.

The climate is marked by a very hot short summer, in which flies and other insects are troublesome, a beautiful autumn with sunny days and cold nights, a very long cold winter and a spring which is delightful when it is not too rainy. The rainfall comes generally in the autumn and spring.

Peasant Ownership of the Land

The natural flora and fauna of Bulgaria are those of central Europe, and plants and animals have survived in the recesses of the Balkan Mountains which have vanished from most other parts of Europe. All the ordinary European crops and animals have been introduced and the range of cultivated crops runs from rice and vines to rye and barley. There is some coal of rather poor quality in Bulgaria, extensive deposits of iron ore and some lead and salt mines. But the country is not rich in minerals.

The Bulgarian's chief occupation is agriculture; the system of land tenure is that of peasant ownership with no large estates and very few non-occupying landlords. The chief crops are wheat, barley, maize, rice (around Philippopolis), tobacco and roses, the tobacco being of as good quality, almost, as that of Turkey. The Bulgarian Government encourages the culture of tobacco by distributing seed, free of cost, among the planters, by giving a bounty on exports and by authorising the Bulgarian National Bank to grant loans on the surety of certificates to the planters until they are able to dispose of their crops advantageously.

Culture of Tobacco and Roses

Tobacco culture is carried on chiefly in the south. The area of the plantations is estimated at 7,500 acres. The district of Khaskovo has the greatest yield; then follows Philippopolis. According to calculations based on various statistics, three-fourths of the tobacco crop of Bulgaria are consumed by the inhabitants and only a quarter is exported.

The rose crop is also of importance; the roses are used exclusively for the



L. G. Popoff

POTTERY AS A PEASANT INDUSTRY: OPEN-AIR MARKET OF EARTHENWARES IN A BULGARIAN TOWN

Bulgaria is primarily an agricultural country and agriculture and small undeveloped industries were for long the sole resource of the people. National industries have developed in recent times; there is no lack of employment or of demand for skilled workmen and mechanics, and several industrial institutions, subsidised by the State, have been established out of the country and crafts. The Bulgarians have long given evidence of artistic taste and ingenuity, and their products, which excel in local manufactures, (embroideries, pottery, etc., noteworthy, and some variations of the national costume) are covered with elaborate and beautiful designs.



E. N. A.

RUGGED ROCKS OF BYELOGRADCHIK, A REMARKABLE NATURAL STRONGHOLD NEAR THE NORTH-WESTERN FRONTIER

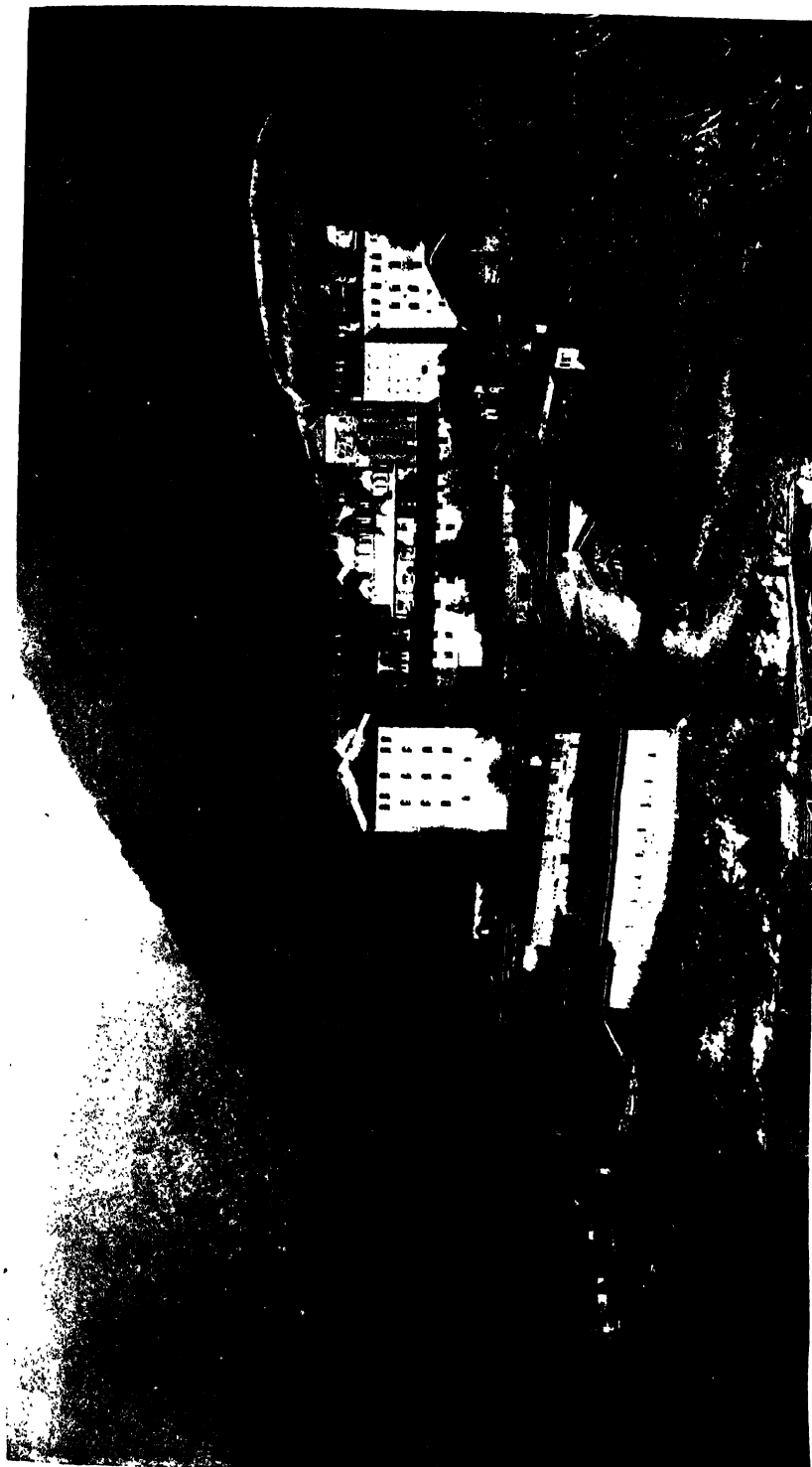
In the hilly country of north-west Bulgaria, some 96 miles by road from Sofia, lies Byelogradchik at an altitude of 1,804 feet. In the vicinity of the town, which is famous for its beautiful location, is a remarkable group of red sandstone hills which under the influence of erosion have acquired various fantastic forms. These hills are distinct from the main Balkan mass and contain some of the most original mountain scenery in the country. Among the jagged pinnacles, boldly outlined against the sky, is hidden an old fortress, said to have been built to protect this part of the frontier against Serbia.



L. G. Popov

AMID THE BARREN HEIGHTS OF THE RILA MOUNTAINS: "SEA-EYES" IN A REGION OF ALPINE GRANDEUR

The Rila Mountains, south of the Balkans and west of the Rhodopes, are a lofty range, their average height of some 6,130 feet exceeding that of any other group in the Bulgarian state. The upper slopes are mostly barren, being only here and there covered with pines and larches; the lower on the contrary have a luxuriant vegetation chiefly consisting of extensive beech and pine woods. There are a large number of mountain lakes (very similar to the "Sea Eyes" found in the Carpathian region). Dotted about the northern and eastern slopes, many of them are small, but of a big beauty. Little white lakes, some of them very small, are scattered about the northern and eastern slopes, many of them are small, but of a big beauty. Little white lakes, some of them very small, are scattered about the northern and eastern slopes, many of them are small, but of a big beauty.



RILA MONASTERY, THE CELEBRATED RELIGIOUS CENTRE OF BULGARIA. IN ITS RICHLY-WOODED SETTING
 In the Rila Planina is situated the well-known Rila Monastery, famed both for its beauty and its historical associations. It lies at a height of nearly 3,000 feet above sea-level on the lower slopes of the Planina, which are covered with a rich vegetation. Though not strong in Bulgaria, monasticism has long existed in this part of the south-west region, and the Rila Monastery, or Rilski Monastir as it is called, is a particularly sacred spot of the Bulgarians and is frequented by many tourists and pilgrims. The entire community comprises only some 200 people, but the monastery is said to provide shelter for more than ten times that number of pilgrims.

E. N. A.



OLD TYPE OF TOWN HOUSE AT DREVNOVO, NORTH BULGARIA

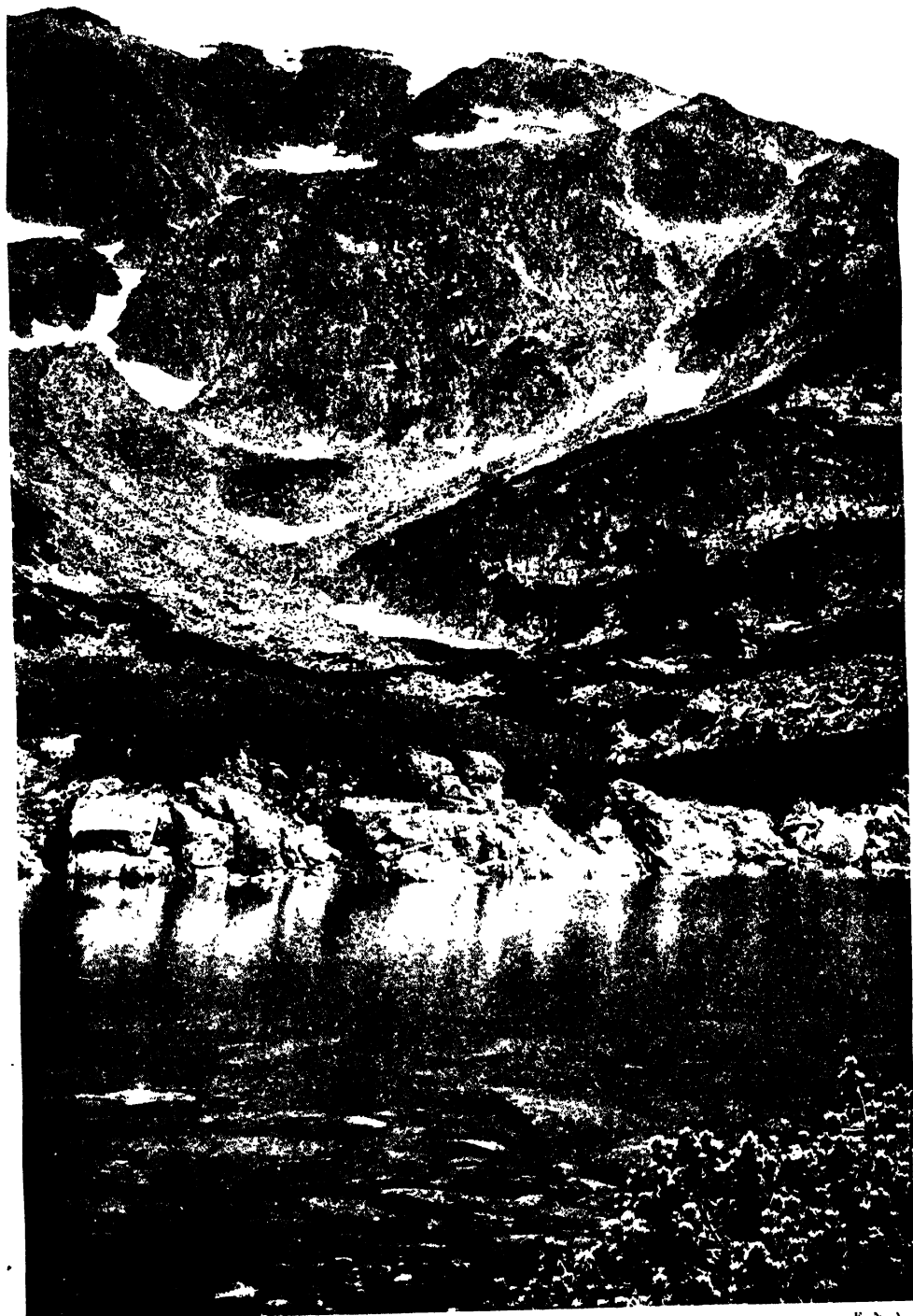
The towns of Bulgaria are fast ridding themselves of old world styles of architecture, for year by year the townsfolk are coming into closer contact with Western civilization. Brick and stone houses are increasing and look remarkably solid and comfortable by the side of the old wooden homestead, which, despite a heavy roof of tiles or thatch, has usually a flimsy appearance

distilling of otto of roses. The gardens are limited to 148 parishes of the provinces of Philippopolis and Stara Zagora and occupy a total area of 12,600 acres. The quantity and quality of the otto depend very much on the weather at the time of bloom and gathering. The roses most cultivated in Bulgaria are the red rose (*Rosa damascena*) and the white rose (*Rosa alba*). The best gardens are at Kazanlik, Karlovo, Klisura and Stara Zagora and the distilling of the otto is a government monopoly. The cultivation of beetroot has been introduced recently and is confined to the province of Sofia; the sugar refinery near Sofia utilises the whole of the crop for local consumption.

It is interesting to note in connexion with Balkan agriculture that as far back as 1863 the much abused Turk had

actually adopted the very modern idea of an agricultural *Crédit Foncier* system in the Balkans. In that year Midhat Pasha, governor of the Danubian Vilayet, prepared a scheme for the creation of banks to assist the rural population. The scheme having been approved by the Turkish government, several of these banks were established. The peasants were allowed to repay in kind the loans which were advanced to them, the banks themselves selling the agricultural products. With the object of increasing the capital of the banks a special tax was introduced obliging the farmers to hand every year to them part of their produce in kind.

The Bulgarian on the land lives a laborious life, bread and cheese being his usual food, with a little meat as a rare treat and a glass of vodka as his indulgence for Sundays and feast days.



R. N. A

TRANQUIL WATERS OF A MOUNTAIN TARN IN THE RILA PLANINA

On the whole lakes are not numerous in Bulgaria, but among the lofty summits of the Rila and the western Rhodopes over a hundred lakes of varying size and depth are to be found, for a characteristic feature of these mountains is a huge wall of rock suddenly cleft by a valley in which a pool of water lies reflecting the entrancing colours and forms of its surroundings



IN THE HARBOUR OF VARNA, CHIEF PORT OF BULGARIA ON AN INLET OF THE BLACK SEA

Although within recent years Varna, the fortified seaport of Bulgaria, has lost some of its importance, it has still a large import and export trade and is visited by numerous vessels. Being free from ice the whole year round, Varna has considerable advantage over the Danubian ports, and the harbour, not formerly a safe one, has been greatly improved. With an anchorage for some 220 yards wide between the seaward extremities, affording secure anchorage for shipping. A railway runs down to the western side of the harbour, and the town is picturesquely built on undulating ground.

E. N. A.



AGE-WORN REMNANTS OF ROMAN RULE NEAR PHILIPPOPOLIS

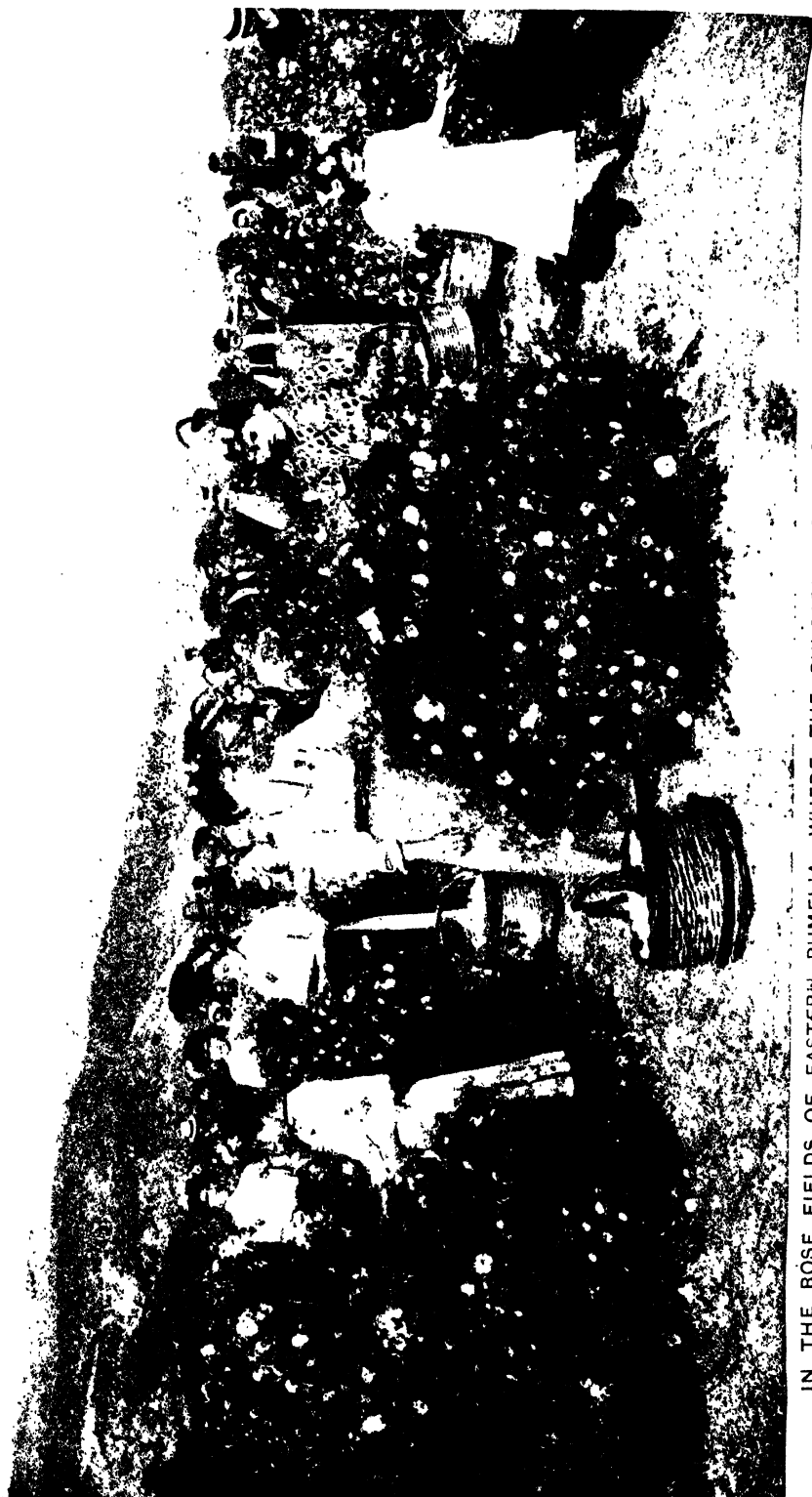
The old town of Hissar, situated some 25 miles due north of Philippopolis and some 12 miles south-west of Karlovo, is famous for its hot mineral springs, well-known throughout the Balkans, which appear to have played an important part in Roman times. In the vicinity are scattered several interesting ruins, all testifying to the ravages of time and to the indifference of the local population

Marrying early, he is astonishingly fecund. Transfer him to town life and he soon shows a weakening in physical fibre. The streets sap away his field-bred health. A more elaborate diet attacks the soundness of his almost bovine digestion. There is no greater contrast between the Bulgarian peasant on the land, physically the healthiest type one could imagine, and the Bulgarian town resident, who has not yet learned to adapt himself to the conditions of closely hived life and shows a marked susceptibility to dyspepsia, phthisis and neurasthenia. The Bulgarian peasant has the nerves and the digestion of an ox; the Bulgarian town-dweller, the son or grandson of that peasant, might often pass for the tired-out progeny of many generations of city workers.

By a system of high protection and bonuses efforts are being made to establish manufacturing industries in the country. The oldest Bulgarian industry is weaving, which has existed from ancient times as a home industry.

The wool of the country is worked up into cloths, carpets, braids, serges, etc., which used to be in request throughout the Ottoman Empire. The most important weaving centres are Pirdop, Panagyurishte, Karlovo, Sopot, Koprivshitsa, Klisura, Kalofer, Gabrovo, Trevna, Sliven, Kotel and Samokov. Under Turkish rule these towns supplied cloth to the imperial army. Bulgarian cloths were then held in high esteem, and there was a demand for them in Greece and in Asia Minor.

Bulgaria, notwithstanding all the pre-occupations of a young nation, finds time to encourage the arts. There is a flourishing school of native art in Bulgaria. To Nicolas Pavlovitch (1835-1889) belongs the honour of having been the father of modern Bulgarian art. He graduated at academies in Vienna and Munich, and after visiting the various museums in Dresden and Prague went to Petrograd and Moscow. In 1861 he returned to his native country, where he endeavoured to reform and modernise church painting



IN THE ROSE FIELDS OF EASTERN RUMELIA, WHERE THE BULGARIAN OTTO OF ROSES HAS ITS ORIGIN
 The culture of the rose for the purpose of extracting its fragrant oil is one of Bulgaria's oldest and most attractive industries. The chief rose region is in Eastern Rumelia, with Kazanlik as its centre, and here huge areas are converted into rose-gardens, where exposed to the sun's hot rays thousands of rose-bushes flourish abundantly on the sandy soil. Gathered early, before sunrise, the flowers are usually distilled in the stills of the rose-oil factories. The stills are usually composed of a long horizontal cylinder, and the coloured costumes of the light-brown villages present a picture of beautiful beauty.

in accordance with the requirements of modern artistic technique.

The monetary units which have been adopted by Bulgaria are the lev (having the nominal value of one franc) and the stotinka (centime), being the hundredth part of a lev. For some years after the creation of the principality the government found it impossible to introduce any national coins. It had

coins. Later, Russian money was also prohibited, and there was afterwards a purely national currency.

The Bulgarian railways are, with the quays at the ports, the property of the state and are managed by a General Board of State Railways and Ports. There are fourteen lines traversing the country from east to west and north to south and some seventy-two railway



LOG-FIRED STILL FOR THE PREPARATION OF A PRECIOUS SCENT

Immense quantities of roses, roughly estimated at 60,000 blooms, are required to yield one ounce of the oil known commercially as otto, or attar, of roses, but the quantity and quality of the oil depend much on the weather at the time of harvesting. In many factories the process is carried out by somewhat crude methods, but the primitive log-fired stills are now being superseded by modern plant.

to permit the circulation of all kinds of foreign money - Serbian, Rumanian, Russian, etc. In 1881 the government put into circulation two million francs of Bulgarian copper money, but these, as well as the twelve millions of silver money which were issued in 1883-84, proved quite insufficient to drive away the foreign money, so that the latter continued to be used in all commercial transactions. It was not until 1887 that the government prohibited the circulation of Serbian and Rumanian

stations. Both Varna and Burgas are connected by railway with the main lines. The lines have been constructed very cheaply (about £7,500 a mile) considering the nature of the country which they traverse. They may be said to be profitable to the state since in pre-war times they returned about 2½ per cent. interest on their cost of construction, despite the fact that they gave many concessions to local industries.

The Bulgarian is a great road-maker and the main roads in his country are



L. G. Popoff

FRUITFUL VALLEY BORDERING THE ISKER DEFILE NEAR KARLUKOVO

The Isker, a tributary of the Danube, with a length of 120 miles, rises in the Rila Planina, flows through the Stara Planina in a magnificent gorge and joins the Danube above Corabia. At times the river is over 1,600 feet below the general level of the surrounding country and here and there near the red sandstone cliffs enclosing the gorge are plains and valleys of wondrous fertility

excellent. This road-making instinct is proof of a stable sense of civilization. But as regards the greater part of the country the roads are still elementary and the one means of transport is the ox-wagon; and a very good means it is. I recall in the Balkan War of 1912, when I was with the Bulgarian Army as a war correspondent, how the ox-wagons were used for transport; it was a marvel of organization. The railways got choked and even the horse failed, but the ox never. There were thousands of ox-wagons crawling across the country where there were no roads.

The oxen seemed not to walk but to crawl, like an insect, with an irresistible crawl. They suggested those armies of soldier ants which move across Africa, eating everything they encounter and stopping at nothing. I had an ox-wagon coming from Mustafa Pasha to Kirk Kilisse and we went over the hills and down through the valleys, stopped for nothing and never had to unload.

And one can sleep in these ox-wagons. There is no jumping and pulling at the traces such as you get with a harnessed horse. The ox-wagon moves slowly—but it always moves.

The postal, telegraphic and telephonic facilities in Bulgaria are quite equal to the average of Europe. There are about 200 post-offices, about 7,000 miles of telegraph wires and 600 miles of long-distance telephone. The postal and telegraph administration yields a small surplus to the treasury.

The normal trade of Bulgaria can hardly be appraised on its condition to-day. Before the war of 1912 the imports were of an annual value of about £4,000,000 and the exports of an annual value of about £4,500,000. The chief import trade was from Austria; England, Turkey and Germany followed in that order. The chief markets for Bulgarian exports were Turkey, England, Germany and Austria. The chief financial institution of the country is the Bulgarian

National Bank, which is a state institution. There is also a state savings bank with several branches which are much favoured by the thrifty peasantry.

The principal towns of Bulgaria are quite up to the central European standard. The sight of Sofia, the capital, is a glad surprise to the traveller, but this is described in a separate chapter. The second largest town is Philippopolis with a population of some 63,400 persons. Named after Philip of Macedon, it was the chief town of Thrace in Roman times and the capital of the province of Eastern Rumelia under Turkish rule. Advantageously situated on the right bank of the Maritza river, navigable up to this point, surrounded by an exceedingly fertile country and lying on the trunk line from Vienna to Constantinople via Belgrade and Sofia, Philippopolis has long been the principal commercial centre and most prosperous city of Southern Bulgaria, and its beautiful location in the midst of granite heights, commanding magnificent views over the fruitful plains of Eastern Rumelia, has

assisted in no small degree the promotion of its popularity. It has an extensive trade in rice, tobacco, otto of roses, silk, cloth, wheat and wine—all commodities which, in their raw state, are produced on the rich soil of the neighbouring country.

Of the six ports on the Black Sea mentioned in Bulgarian official statistics only Varna and Burgas have any real importance. The remaining four, Byela, Mesembriya, Ankhialo and Sozopol, have an insignificant trade being only calling-stations for coasting vessels.

Varna is situated on an inlet of the Black Sea, 325 miles by railway east-north-east of Sofia, near the spot where the Provadi, after flowing through a grandly scenic, mountain-walled valley, empties its waters into the sheltered bay. The harbour, deep and capacious, is ice-free during the winter months and offers one of the most secure anchorages in the Black Sea. Alongside the quay there are about 4½ fathoms of water, and the facilities for handling cargo have been greatly increased since



L. G. Popoff

BULGARIAN NATIONAL COSTUMES OF BYELA TCHERKOVA

The Bulgarian countrywomen have few opportunities to study or copy the fashions of their town sisters and their gala and everyday costumes are still a quaint combination of the styles worn by their ancestors. All the materials of which the various garments are made are home-spun and of a most durable character, the spinning and weaving being carried on chiefly during the winter months



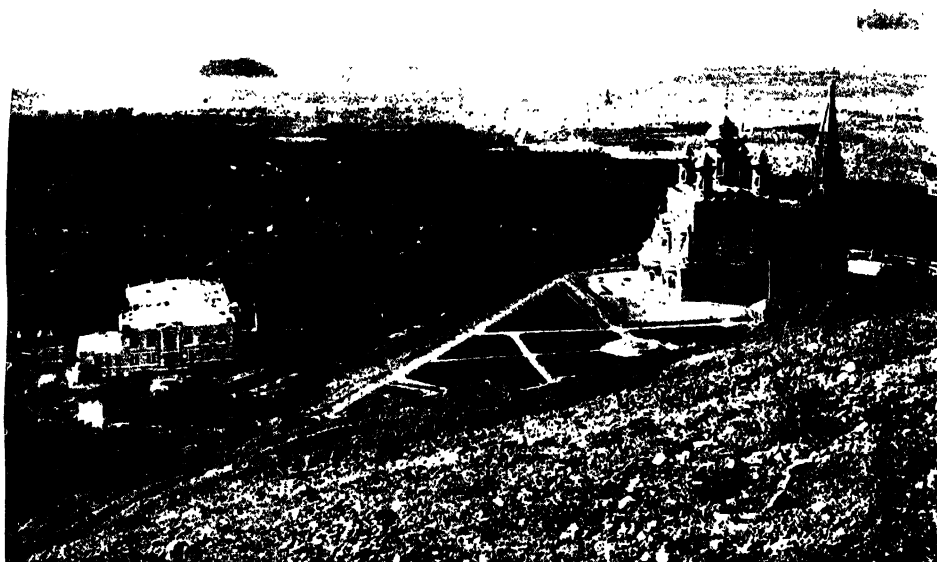
TIRNOVO, ERSTWHILE CAPITAL OF BULGARIA, BEAUTIFULLY SITUATED ON A HORSESHOE BEND OF THE YANTRA

North of the Balkan Mountains and on the railway running from Rustchuk to Stara Zagora, Tirmovo lies in a most picturesque position on the Yantra. A long rocky "promontory" runs up the centre and is termed by the capricious course of the river, which on approaching the western end of this tongue of land from the south "curves round" the town. The river is here its most picturesque, its direction and flow to the westward, then changes abruptly to the eastward, where it curves eastward, where it curves eastward. Tirmovo is a beautiful town, its chief occupations being cloth weaving, dyeing and silk weaving culture.



VARIOUS BRANCHES OF HUSBANDRY ON A CHARACTERISTIC COUNTRY LANDSCAPE OF BULGARIA

An interesting trait of Bulgarian land tenure is the system of small holdings, for all agriculture is in the hands of small tenant farmers and there are no great landed proprietors. Despite the mountainous nature of certain districts, the soil is fertile. The Bulgarian, being both patient and laborious, cultivates it to the best of his ability. His standard of husbandry, however, is not high, and though many modern agricultural implements have been introduced the primitive form of plough is still in use. An important branch of the rural economy is the rearing of livestock and in this respect the country is said to be one of the richest in Europe.



SPLENDID SITE OF THE SHIPKA PASS MONASTERY

The Shipka Pass, a noted pass in the Balkan Mountains of Bulgaria, has a summit 4,370 feet in height and traverses the range from north to south leading from Plevna to Philippopolis. It figured largely in the Russo-Turkish War of 1877-78, and this beautiful monastery, overlooking the rose-fields of Kazanlik, was erected to commemorate the Russians who fell in the Battle of Shipka Pass.

the construction of modern harbour works and of a canal connecting the bay with Lake Devna west of the town.

The town, prettily built on the hilly north shore of the bay, ranks third in the kingdom in population after Sofia and Philippopolis, and has 50,800 inhabitants. Several handsome modern buildings, including the barracks, post-office and National Bank, stand out conspicuously from among the older structures and, as the departmental capital, an episcopal city and a popular seaside resort, Varna possesses numerous attractions and interests and can boast a fashionable social life as well as a flourishing commercial trade.

It has a considerable export and import trade, formerly far exceeding that of Burgas, but since 1913, when the Bulgarian Dobruja was ceded to Rumania, trade has somewhat declined, for a large quantity of the cereals shipped from this port was drawn from the fertile Dobruja district. Cotton-spinning and soap-making are among the chief industries and tanneries, distilleries

and breweries are to be found, while the principal articles of commerce include grain, cattle, hides, butter, leather, cloth and wine. The import trade comprises coal, petroleum, some textiles and chemicals, and iron and machinery.

A railway opened in 1867, with branches connecting the town with several parts of the country, runs direct to Rustchuk, the chief port of Bulgaria on the Danube, famous in past years as an old Turkish stronghold and in present times as an important commercial centre and railway junction.

Both Varna and Burgas enjoy a less severe climate than some of the inland towns and Burgas, lying on a gulf of the same name, 55 miles south-west of Varna, has a comparatively mild winter. It has an approximate population of 22,200. The chief exports are agricultural and dairy products and the imports machinery, hardware, textiles, iron and cotton. The railway which connects it with Philippopolis and Sofia runs down to the quays where there is a water depth of 25 feet and over, with



E. N. A.

DAM AT THE HYDRO-ELECTRIC POWER STATION, PANCHAREVO

This electric-power station on the river Isker is in operation at Pancharevo, some nine miles south-east of Sofia. Most of the tributary streams of the Danube, rising at all heights, are utilised as sources of mechanical energy, and supply the water-power used by the country people for turning their old-fashioned mills which may be seen in large numbers ranged alongside the course of the rivers

accommodation for vessels of 6,000 tons; the loading and unloading of cargoes being carried on direct from the quays. The harbour has a good fresh-water supply and despite commodious and safe anchorage, inadequate equipment for the handling of cargo continues to be a drawback to the prosperity of the port.

The Bulgars are racially nearly akin to the Turks—first cousins at least. Mingling with the Slavs they adopted their language and many of their customs. But something of the Turk survives to this day in the character of the Bulgarian people. It shows particularly in their treatment of their women. Though the Bulgarian is monogamic, he submits his wife to an almost harem discipline. Once married she lives for the family alone. Though she does not wear a veil in the streets it is not customary for her to go out from her home except with her husband, nor to receive company except in his presence, nor to frequent theatres, restaurants or other places of public amusement. There is thus no social life in Bulgaria in the Western European sense of the term.

The Bulgarian's food is frugal—whole-

meal bread, hard cheese, soft cheese (which is like rank butter), vegetables, very occasionally meat and eggs. From his Turk cousins he has acquired a love of sweetmeats, and so for his treats lollies and cakes are essential. But also he is a Slav and likes a glass of vodka on Sundays and feast days. He is sober, however, and drunkenness is rare. His chief drink is water, with now and again tea made in the Russian fashion, or coffee made in the Turkish fashion. At the village cafés these are the chief refreshments—vodka, tea and coffee; but a light beer is also brewed in Bulgaria.

Both as regards food and drink, however, the Bulgarians' habits are governed by an intense frugality. The country gives no very rich return to the peasant. The household budget leaves very little margin over from the strictly necessary food expenses. That margin the Bulgarian prefers in the main to save rather than to dissipate. The Bulgarian is economical, not to say grasping. He dreams always of getting a little richer. In his combination of the instincts of a cultivator and of a trader, he resembles somewhat the French peasantry.

BULGARIA: GEOGRAPHICAL SUMMARY

Natural Divisions. Loess-covered northern plateau, with a scarp face to the Danube. Balkan Mountains. Plain of Eastern Rumelia drained by the Maritza. Rhodope Mountains with the Struma valley. Mountain basins: (i) Sofia, in the Isker valley; (ii) Kustendil, in the upper Struma valley.

Climate and Vegetation. Central European. Great extremes on the exposed plateau, with sudden severe changes of temperature, summer rains and steppe vegetation. More equable climate on the plain, with autumn rains and a vegetation transitional in type between steppe and Mediterranean. The basins are intermediate between plain and plateau; the mountains are colder and well-wooded, with walnut and chestnut trees in the sheltered valleys.

Products. Mainly agricultural. Half the people live on small holdings of less than six acres. Wheat and maize on the plateau, tobacco, roses and rice on the plain and fruit in the basins are important

crops. Meat, both beef and mutton, is produced on the Alpine pastures on the Balkans. Coal is mined at Pernik. Bulgaria had to send coal to Serbia as part of the Great War indemnity. Flour, otto of roses, woollens, cottons and cigarettes are the principal manufactures.

Communications. Vienna—Constantinople route across the Sofia basin and the plain. Danube to the Aegean routes: (1) by the Isker valley in the plateau, the Sofia and Kustendil basins and the Struma valley; (2) from Rustchuk across the Balkans (by road through the Shipka Pass to the Maritza valley). Ports: Burgas, with railway to Rustchuk; Varna, with railway to Philippopolis.

Outlook. Essentially bankrupt now in consequence of the Balkan and the Great Wars, yet rooted to the soil and with easy communications except for the lack of an Aegean seaport, Bulgaria, by cultivation and trade, will regain its former prosperity, provided peace reigns in the Balkans.

BURMA

Jungle-clad Basin of the Irawadi

by Captain F. Kingdon Ward

Author of "In Farthest Burma"

BURMA, though politically a province of the Indian Empire, is separated from peninsular India by the Bay of Bengal, and from Bengal and Assam by a grid of parallel mountain chains covered with impenetrable jungle. Thus racially and geographically it has always been completely severed from India. Its relationships are rather with Tibet and China, though these, too, are somewhat remote.

Geographically Burma comprises the valley and delta of the Irawadi river, together with the adjacent coast and the estuaries of the Sittang and Salween rivers. This region, Burma proper, is inhabited chiefly by Burmans in the north and by their ancient enemies, the Talaings, in the south, both of them immigrant races.

Politically, modern Burma includes also the Shan plateau to the east, inhabited by people of the Tai (Shan) race; the Kachin Hills beyond the confluence of the two great branches of the Irawadi; the Chin Hills west of the Chindwin river; the Arakan coast from Teknaf in Bengal southwards to the delta; the Tenasserim coast from Moulmein to Victoria Point, together with the islands of the Mergui Archipelago; and the trans-Salween territory, between the Salween and Mekong rivers, occupied by more or less barbarous tribes.

Wave on Wave of Immigration

The greater part of this region, except the Shan plateau, is occupied by peoples of Tibet-Burman or of the vanquished Mon-Khmer (Talaing) race, and is in that sense "Burma." The historical division into Lower (British) Burma, with its capital at Rangoon, and Upper

(independent) Burma, capital Mandalay, still survives; the 20th parallel marks the dividing line.

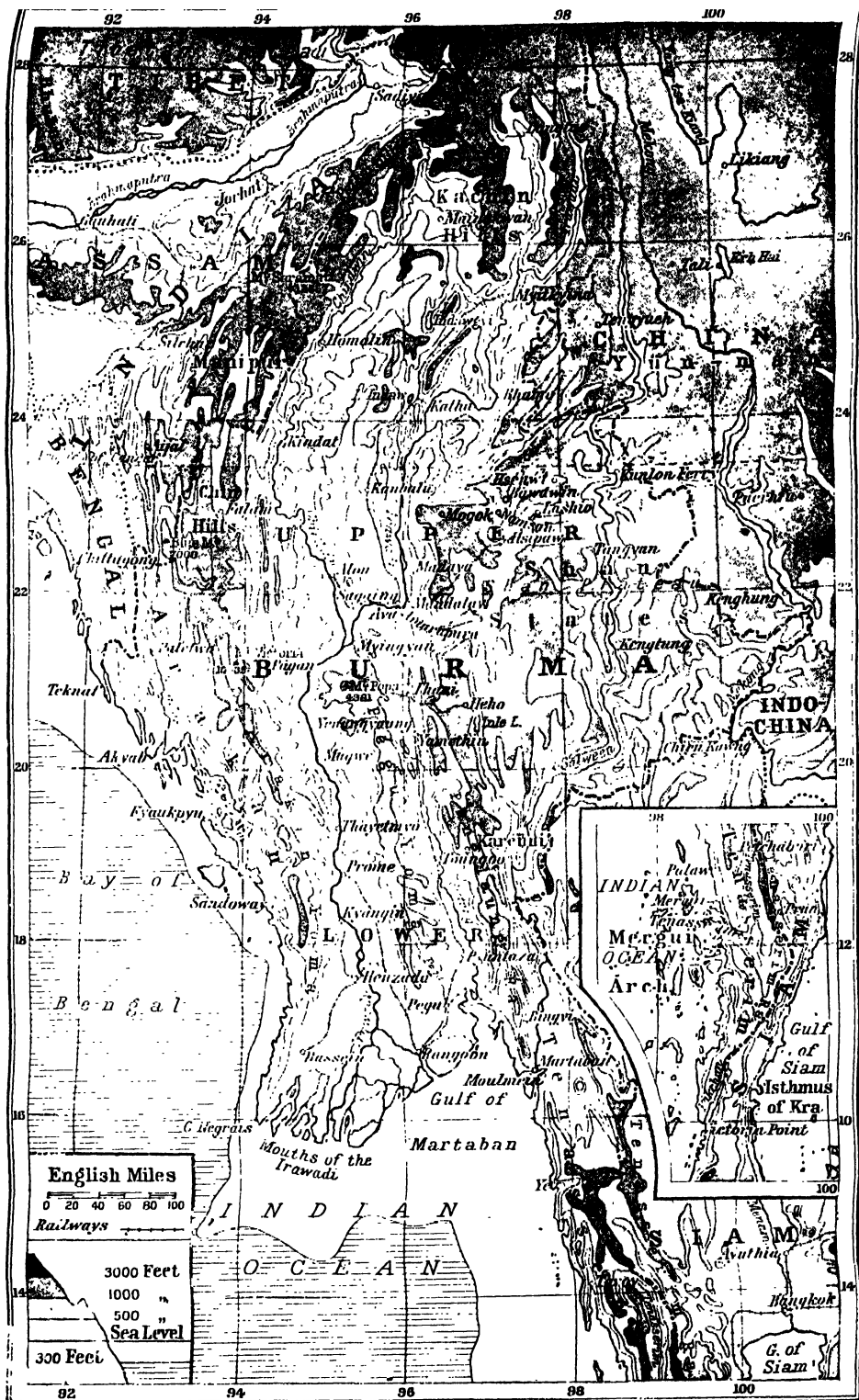
The only simple approach to Burma is by way of the sea, and hence there was for long no outside interference with the country. It was the people already domiciled in Burma who strove for dominion. They had driven out the original inhabitants - whoever they may have been - long ago. They had come down from the bleak mountains to the warm fertile plains, wave on wave, slowly through the centuries; first the Mon-Khmer, then the Tibet-Burman, finally the Shan.

Invaders from Over the Sea

As each group grew in power it fought with the others for the whole, until in the end the Burmans prevailed and gave their name, language and civilization to the country. The Shans then occupied the eastern plateau, while the Mon-Khmer (Talaings) dwindled in power and were absorbed. Thus a despotism grew up in Burma unmolested by more powerful neighbours.

Not until a seafaring people came were her kings threatened from outside. But lying off the main sea routes to the East, and beyond reach of the Trades, it was comparatively late before people came to Burma from the West - first the Portuguese, then the French, finally the English. The long coastal strips of Arakan and Tenasserim fell an easy prey to the aggressors, and after the fall of Burma proper were welded politically to the latter.

Whoever held India and the Irawadi valley naturally held the intervening country, and an arbitrary frontier between Burma and Assam was delimited.



MOUNTAIN-RINGED BASIN OF BURMA, INDIA'S LARGEST PROVINCE

Northwards a frontier was more difficult to define, since a wide strip of no-man's land separated Burma from Tibet and China, and to this day the frontier here is in a fluid state, neither country administering right up to its limit. Burma ends where the Irawadi rises, more or less; beyond lies Tibet. Eastwards also the frontier shifted as British administration advanced till it met Chinese administration, a process

plateau to the east, the Arakan, Chin and Patkai hills to the west; the whole enveloped in the extreme north by an arc of snow-clad mountains forming the rim of the Tibetan plateau and sending down long spurs into the Irawadi jungle. For about 100 miles the Mekong river forms the boundary with French Indo-China, and south of that again is the more or less artificial frontier with Siam, ending up with the



PALACE PREMISES THAT BECAME A SOCIAL CLUB

After the deposition of King Theebaw the royal palace at Mandalay was used for some time as barracks and offices for the British Administration. The great hall of audience became the garrison church and the private hall of audience and premises were occupied by the Upper Burma Club. All have now been evacuated and the palace is being preserved as a national monument.

which is not everywhere completed. The reason why Burma has grown so enormously since the British connexion is that Britain could not bear to see this no-man's land barring her from direct access to her neighbours. Therefore she prudently extended her administration to meet theirs, before they could do likewise.

Modern Burma is thus an artificial conception, with a somewhat arbitrary and in places indefinite land frontier of about 1,700 miles. Briefly, it comprises the broad delta and valley of the Irawadi, forming a wedge of low-lying country hemmed in between two series of parallel mountain chains—the Shan

Pakchan estuary. The province has a total area of over 230,000 square miles and a population of over 13,000,000.

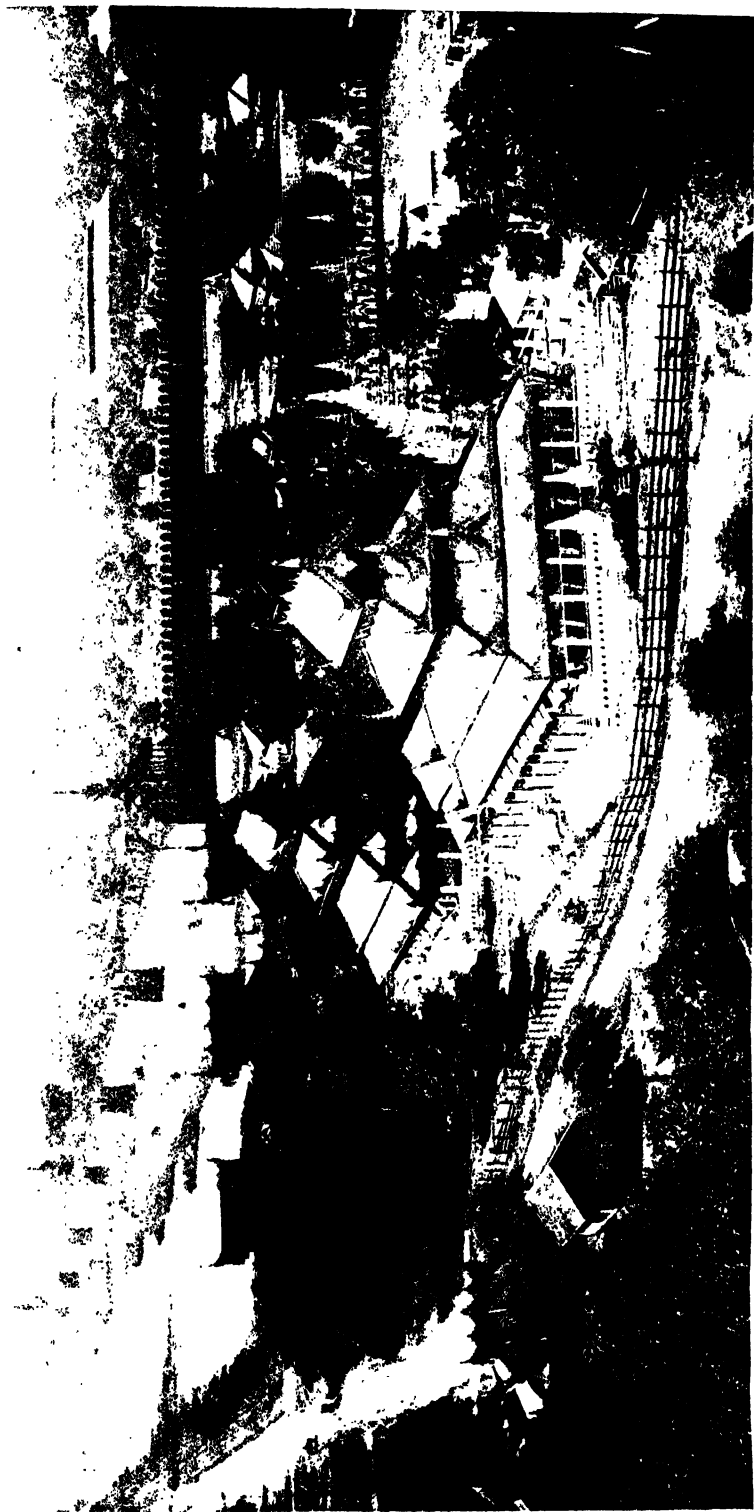
The coastline, forming the eastern shore of the Bay of Bengal, is about 1,200 miles long, stretching in a general south-eastern direction from the 21st parallel to the mouth of the Pakchan river in latitude 10°, with a big re-entrant in latitude 16° where the Irawadi delta is. The surface is much diversified, though the almost continuous blanket of forest tends to conceal much of the variety.

The chief rivers are the Irawadi, which bisects the country from north to south; the Chindwin, an affluent of the



BUDDHIST SCRIPTURES IN STONE: THE KUTHODAW OR FOUR HUNDRED AND FIFTY PAGODAS

Piety has raised few edifices so surprising as the Kuthodaw, which stands outside the walls of old Mandalay. King Theebau's uncle caused the Books of Buddha to be engraved on 450 large stones which he set up so as to form a square, each being enclosed within a small pagoda. A wall pierced by ornate gates surrounds the pagodas, in the midst of which a temple rises. The area covered by the Kuthodaw is about 800 yards square. To the right, on the road to Nyaung-U, is seen the also rectangular "Incomparable Pagoda," one of over a dozen stupas of the city.

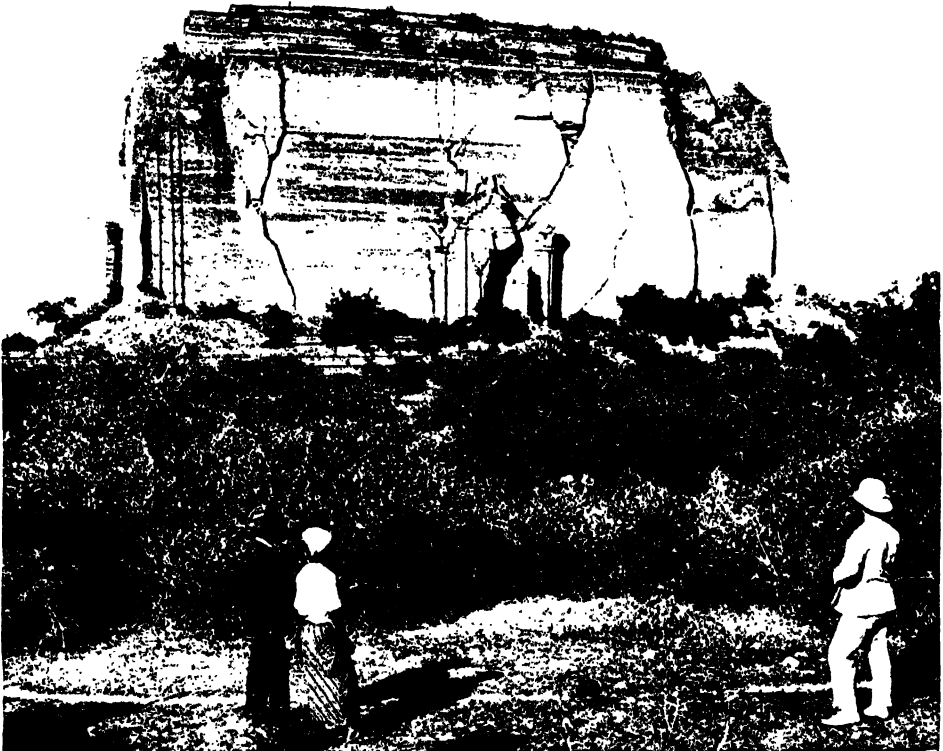


OLD FOURSQUARE MANDALAY WITHIN ITS MOAT-DEFENDED WALLS: ONCE CAPITAL OF INDEPENDENT BURMA

Mandalay was built in 1850 by King Minder, who made it the capital of independent Burma. It was originally a square enclosed within a wall, with wooden towers over the gates and further protected by a moat. An inner square contained the royal palace, treasury and arsenal. The city was occupied by the British in 1885 and after a destructive fire in 1892 was rebuilt. The old town is now called Fort Dufferin and, with the new municipal area outside the walls, Mandalay is now a large, up-to-date city, capital of the Mandalay Division and the commercial centre of Upper Burma.

Irawadi; the Salween, which rises far beyond Burma but flows through the province for 500 miles; the Tenasserim; and the Sittang. They all flow from north to south. By far the most important of these is the Irawadi, navigable for 1,000 miles. The Chindwin is navigable for another 300 miles, but strange to relate the Salween,

Similarly, first-class active volcanoes no longer exist and the mud volcanoes are too small and local to be of much importance, though interesting enough. But the isolated cone of Popa, rising 5,000 feet above the plain in central Burma, was active in recent geological time. With the exception of the delta, the coastline is rocky and picturesque.



Herbert G. Ponting

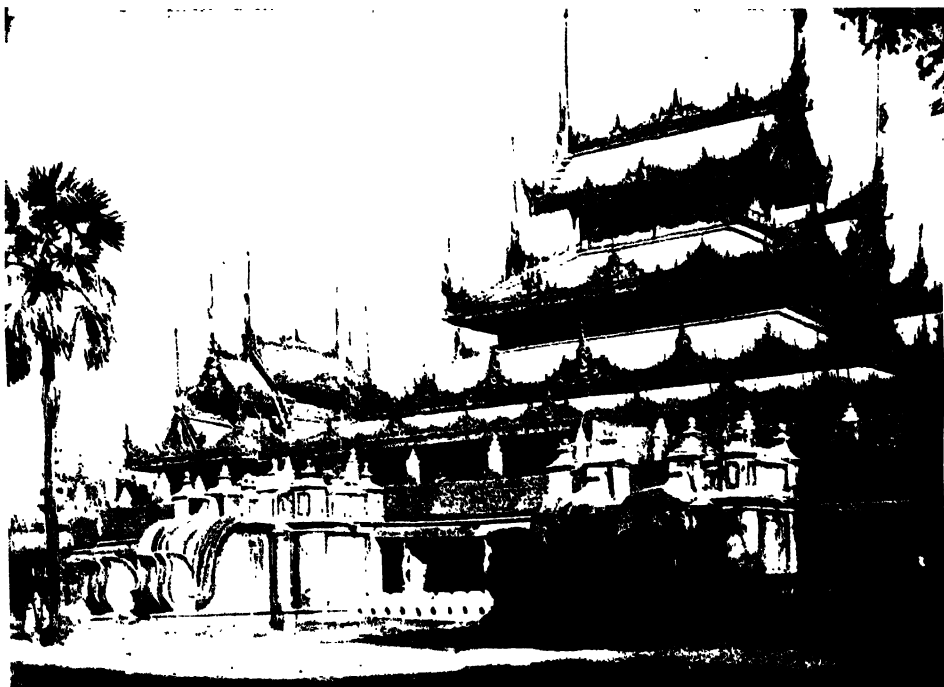
MONUMENT OF FRUSTRATED ENDEAVOUR AT MINGOON

At Mingoan, nine miles north of Mandalay, this singular ruin is the largest mass of brickwork in the world. It measures 450 feet in length and breadth and 155 feet in height, and was intended to be the pedestal of an immense pagoda, but King Mintayagyi, who projected it, became short of money and the building was never completed. In 1839 the solid mass was riven by earthquake

though much the longest, is useless for navigation. It possesses instead the grandest scenery in Burma. There are no large lakes, the Indawgyi covering but 90 square miles; the Indaw and Inle lakes are still smaller. They were all doubtless much bigger in an earlier period of the earth's history and it seems likely that they will disappear altogether in a later age.

The estuaries are fringed with mangrove swamp, but elsewhere the coast ends in abrupt cliffs or forest comes right down to the beach. The islands of the Mergui Archipelago are a paradise of beautiful scenery.

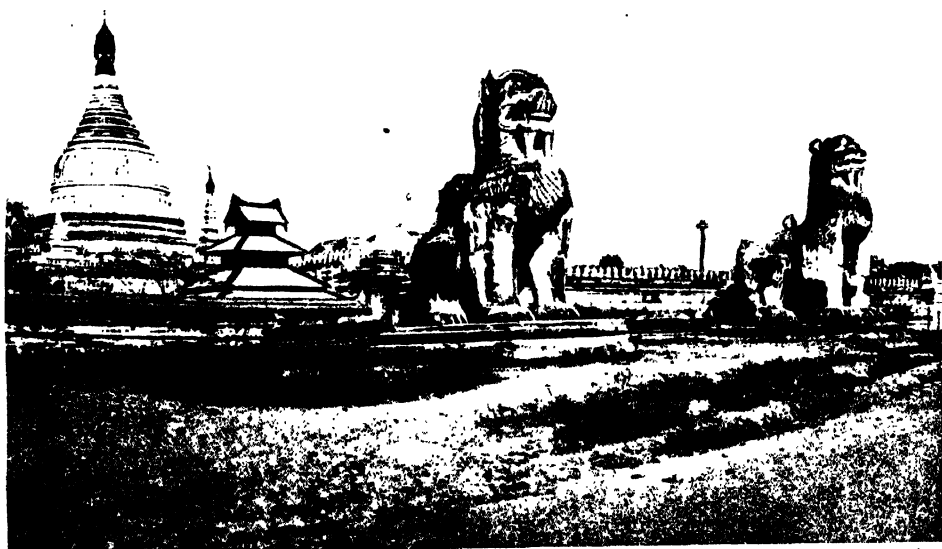
The climate varies considerably in different parts but the whole of Burma comes under the influence of the monsoons. Throughout the summer the



John Bushby

QUEEN'S GOLDEN MONASTERY AND ITS GILDED ROOFS AMONG THE PALMS

Queen Supayah Lat had this extraordinary building set up in the hope that it would go some way towards expiating her many sins. The whole place, eaves, roofs and balustrades, is elaborately carved in illustration of incidents in the life of Buddha and glitters with gilt through the fronds of the palms that screen it from the road. It is about a mile and a half from Fort Dufferin, the old city of Mandalay



John Bushby

GRUESOME LEOGRYPHS THAT GUARD THE ARAKAN PAGODA AT MANDALAY

Within the sacred walls is the famous brazen Buddha, 12 feet high, whose presence makes the place not inferior in sanctity to the Shwe Dagon itself. According to the legend, the image could not be fastened together till the Gautama himself embraced and joined it. Thousands of pilgrims throng the place and feed the sacred turtles with cakes and rice, so that the beasts attain enormous proportions.



ONE OF THE SPACIOUS, TREE-LINED STREETS OF MANDALAY

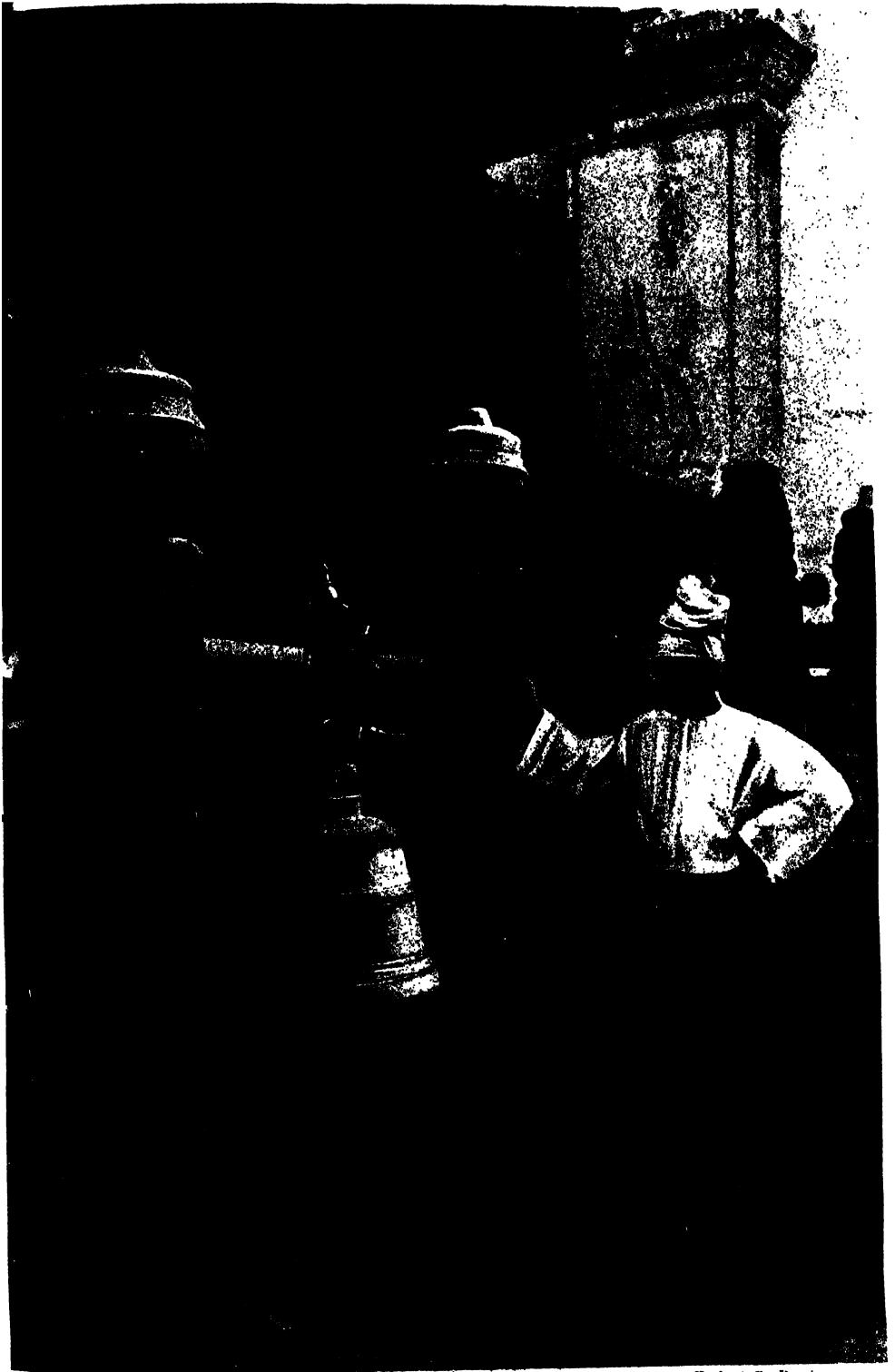
Land that in 1860 was mere jungle swamp to-day is the site of Mandalay, a city measuring six miles from north to south and three miles from east to west and containing a mixed population of 148,000 people. The municipal area outside the original city walls is well planned and laid out with broad, well-metalled roads and streets like this, well-lighted and lined with avenues of trees.

south-west monsoon blows up from the Indian Ocean bringing heavy rain. During the winter the wind blows from the mainland of Asia and several months of fine, dry weather result. There are three seasons in Upper Burma, cold, hot and wet; but scarcely more than two in Lower Burma, wet and dry, both of them hot.

The heaviest rainfall occurs on the coast, which receives the first onslaught of the monsoon. Torrential rains fall between June and October, sometimes as much as 250 inches; but there are breaks of fine weather. At the apex of the funnel formed by the mountains of northern Burma the rain-bearing winds are gathered up and sucked dry; here, too, the rainfall is very heavy, but more equally distributed throughout the year.

At Rangoon about 90 inches fall in six months. Central Burma on the other hand, surrounded by hills which screen or divert the moist air currents, escapes with a paltry 30-inch rainfall.

The change of the monsoon in spring and autumn is accompanied by gales and thunderstorms and cyclones occur in the Bay of Bengal. The damp heat of Lower Burma is trying to Europeans, but the dry zone, though the temperatures there are higher, is considered healthy. The three months' cold weather (November to February) is, of course, a great standby. During the hot weather (March to May) in Rangoon the day temperatures exceed 90° F.; in Mandalay they exceed 100°. September is the worst month of the whole year throughout all Burma.



Herbert G. Ponting

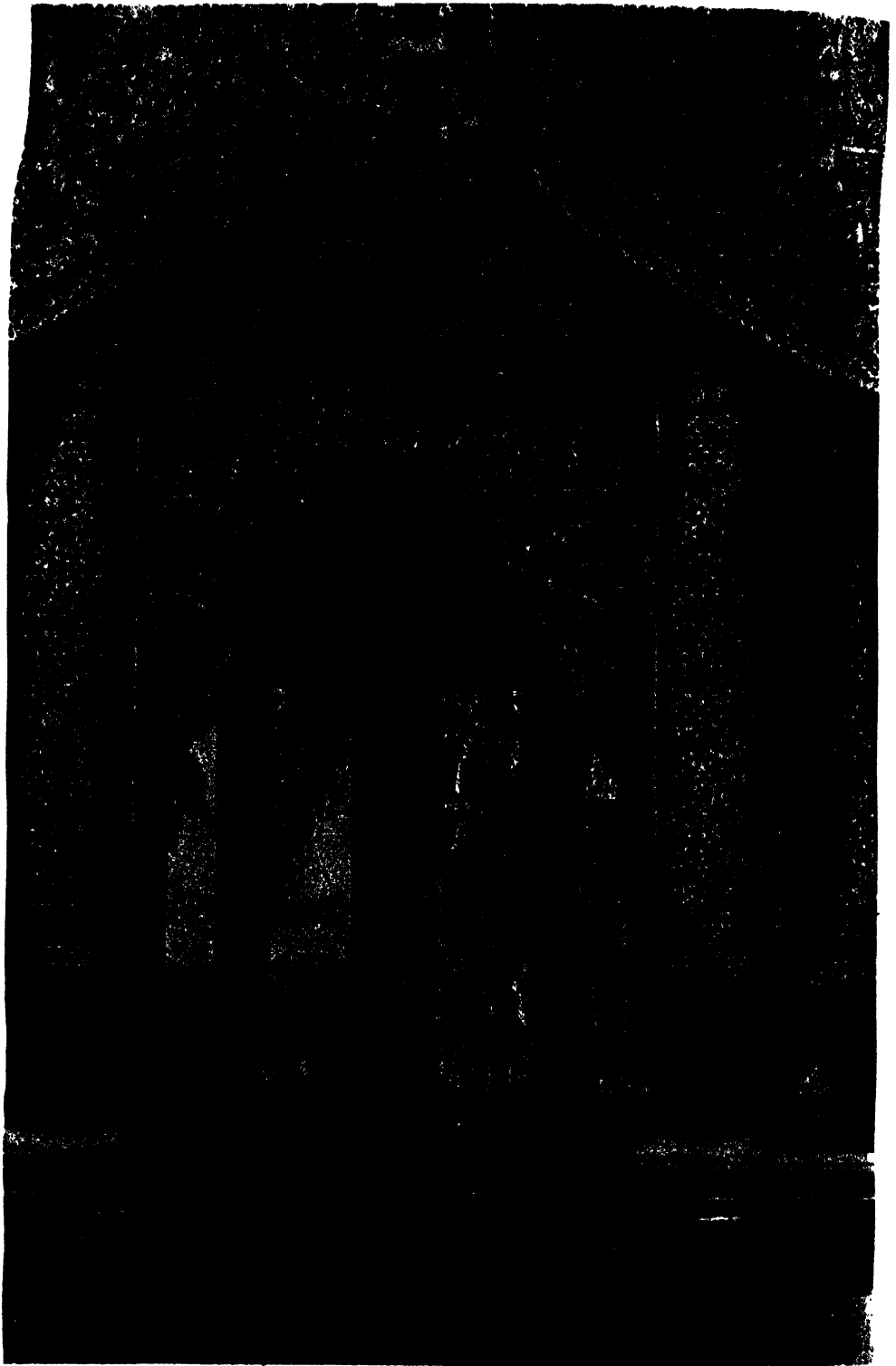
*BURMA. . . Among the treasures in the hundreds of pagodas at Pagan
is this bell in the temple of Ananda, Buddha's "beloved disciple"*



BURMA *Traversing Burma from north to south the Irrawadi is the main artery of the country's industrial* John Bushby

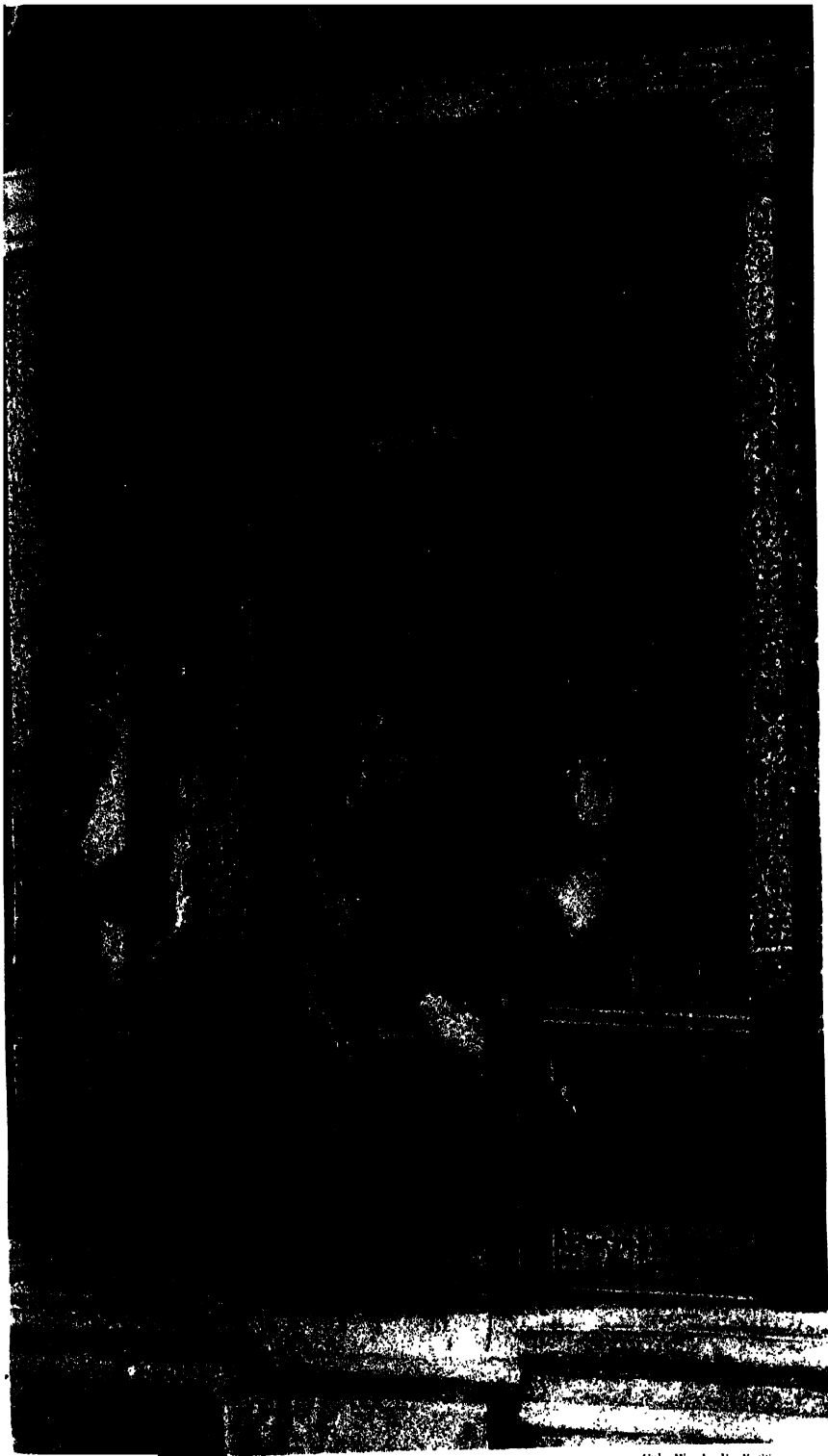


BURMA. Built of teak profusely decorated with elaborate carving and heavily gilded both within and without, the Queen's Golden Monastery in Mandalay is reputed the finest building of its kind in all Burma



Col. W. J. P. Rodd

BURMA. *Although carved out of teak wood the curtains of this shrine in the Shwe Dagon pagoda show against the light like filmiest lace*



Col. W. J. P. R. 1113

BURMA. *Perfection in wood-carving is attained in this shrine, a strange contrast to the crude sculpture of its stone images of Buddha*



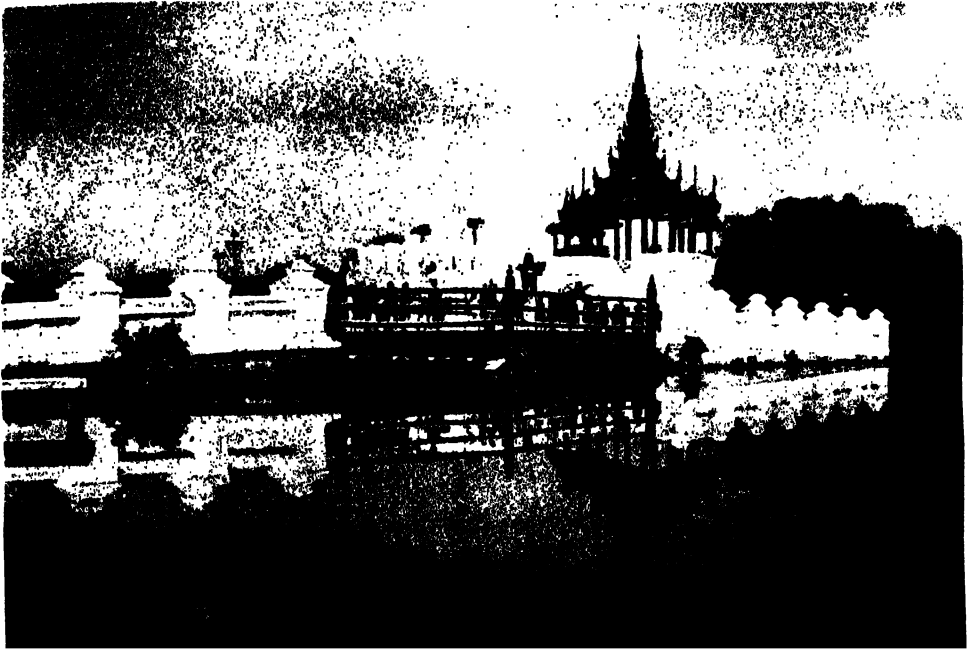
John Bushby

Seen in its proper setting on the Irawadi, as here at Myingyan, the Burmese paddy-boat with its generous lines makes a pleasing picture



John Bushby

BURMA. This closer view shows the art the Burmese boat-builder lavishes on the carved steering-chair whence the rudder is guided

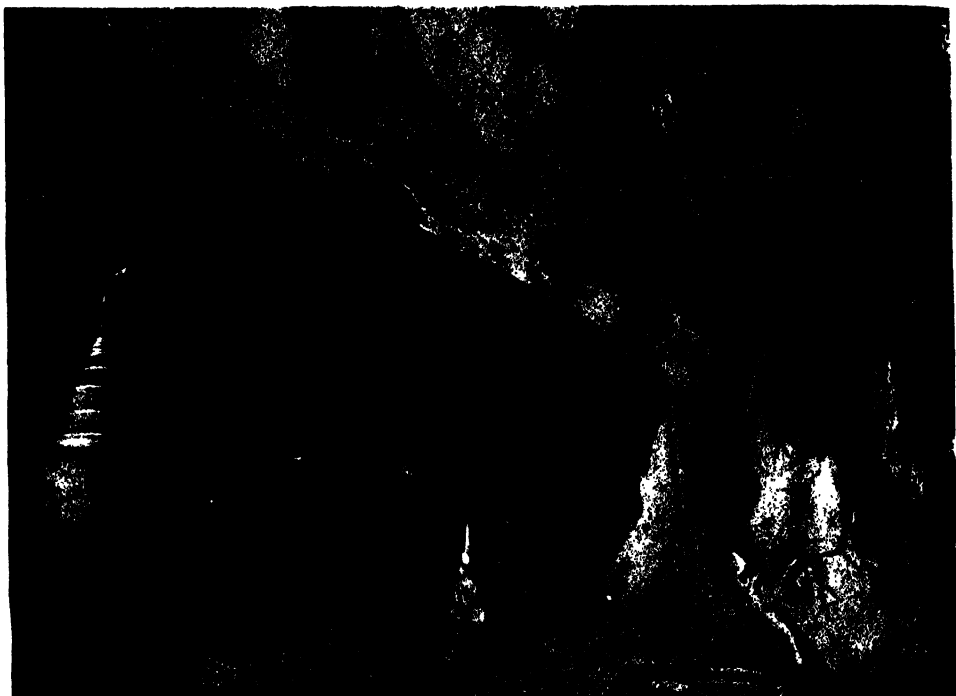


John Bush

Five graceful bridges across the moat that thus beautifully reflects them give access to Fort Dufferin, the old city of Mandalay



BURMA. *In Kengtung, capital of the largest British Shan State, the Wat Sawm Tawng draws pious Buddhists from the market crowds*



In the limestone cliffs near Moulmein the Farm Caves are vast natural halls lined with platforms once crowded with images of Buddha



Herbert A. Ponting

BURMA. Numerous sitting figures of Buddha of varying sizes still remain in the Moulmein caves, and before them Burmese women pray

The Shan plateau, 4,000 feet above the Irawadi, has a delightful climate. Here the temperature rarely exceeds 80° and frosts occur in the winter. The summer rainfall is about 50 inches. Several sanatoria and hill stations are situated here, two of them connected by rail with Rangoon. Almost anything will grow in such a climate, and pig

occur. Man wages eternal warfare with the encroaching jungle and has made little progress so far.

This forest, though it varies greatly in composition, is everywhere of Indo-Malayan affinity. In the dry zone a scrub forest of thorny acacia catechu (cutch) is, or was formerly, met with; and along the coast are mangrove



POST OFFICE AND TRINITY CHURCH IN THE STRAND, RANGOON

Rangoon, Burma's capital, lies along the left bank of the Rangoon river, and is enclosed on the sides by water owing to a bend in the river and a large creek situated at the confluence of the Pei and the main stream. Wharves line the bank and behind them runs the Strand containing principal public buildings. The Post Office is the low, white building just above the bullock

breeding, fruit farming, poultry farming, market gardening and other activities have been started, many of them by European settlers. In the extreme north of Burma the winters are long and severe, with heavy falls of snow which lie on the mountains for months. The Irawadi itself rises amongst glaciers.

The best season for travel in Burma is from November to March. After March it is too hot for comfort. In the rainy season the roads are generally impassable, and the railway is frequently breached by the floods. The hot, wet climate of Burma ensures most of the country being covered with forest. Only on the Shan plateau do open pastures

swamps and farther inland swamp forest. But the greater part of the country is covered with much less specialised monsoon (deciduous) or tropical evergreen forest, passing into temperate rain forest on the mountains, and finally into the region of rhododendron and conifer forest.

The most important trees of the monsoon forest are teak (*Tectona grandis*) and "in" (*Dipterocarpus tuberculatus*). In the tropical evergreen forest the wood oil tree (*Dipterocarpus spurius*) is important, and here also flourishes a vast army of figs, including *Ficus elastica*, the wild rubber-tree. In the temperate rain forest are oak, maple, magnolia,



H. N. A.

RANGOON TRANSFORMED BY WISE MUNICIPAL ENTERPRISE

Since 1852, when it was taken possession of by the British, Rangoon has grown from an insignificant fishing village to a seaport ranking next to Calcutta and Bombay. The main city is laid out on the block system with wide thoroughfares, and there is electric tramway communication with the Kemmendine suburb in the north-west, Pazundaung in the south-east and the Shwe Dagon pagoda

bamboo, rhododendron and so on; and there is much open park land covered with bracken and scattered alder and pine-trees. Higher up are forests of fir.

The forests are full of valuable timber and other produce, teak being one of the most important exports. But the vast trackless forests of the north-east frontier are unexplored and unexploited. The jungle harbours many wild animals. Tiger and elephant are common, and in the hills the cry of the gibbon is as familiar as that of the barking deer. Bear and sambur are equally abundant, and in the forests of Tenasserim are found rhinoceros and tapir; but the

most interesting hoofed animal of all is the takin (*Budorcas taxicolor*) of the north-east frontier.

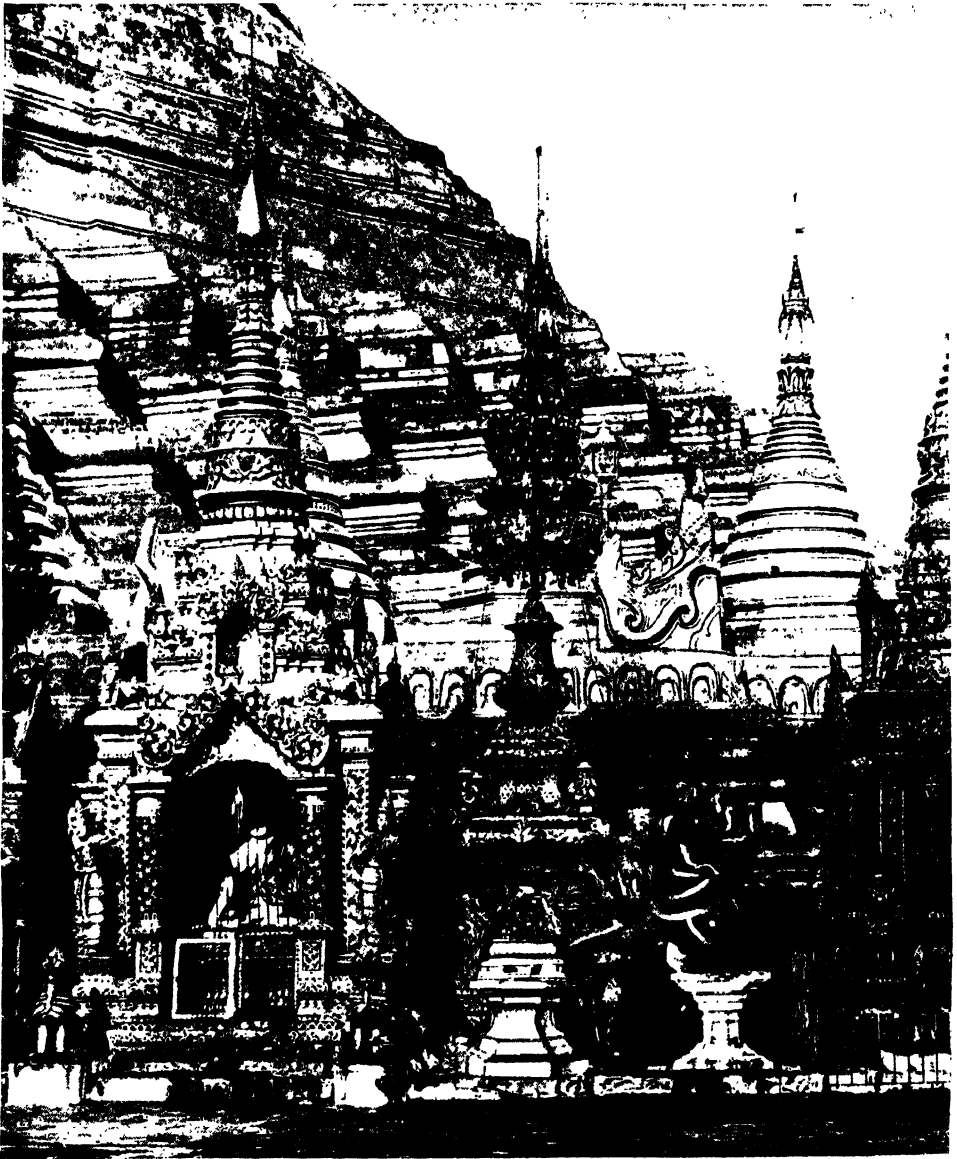
Agriculture is the chief occupation of the people, less than 10 per cent. of whom live in the towns; and by far the most important crop is rice. The seaport of Rangoon was built up on the rice trade. Rice is grown all over the delta, one crop a year. There is no rotation, and the soil is not manured in any way. In the dry zone the rice is irrigated from canals. On the steep hill slopes of the frontier the forest is felled and burnt, and the crops sown in the spring. In the following year the land reverts and



Col. W. J. P. Rodd

HOW THE SHWE DAGON PAGODA SOARS ABOVE ENCIRCLING SHRINES

After a climb up many steps the platform of the pagoda is reached from which this photograph was taken. It is 685 feet wide and 900 feet long and from it rises the bell-shaped pagoda itself, whose summit is 370 feet above. The lower parts are encased in plates of pure gold and the rest covered with gold leaf so that the whole makes a great gilded spire aflame in the sun



Col. W. J. P. Rodd

INTRICACY GARISHLY ORNATE IN THE SERRIED ROWS OF SHRINES

Coloured glass, inlay and detailed wood-carving characterise the shrines about the Shwe Dagon platform. Compared with the great monument in their midst, they seem tawdry and disappointing. At night naphtha flares and electric light—there is a lamp-post in the right centre of the photograph—have a weird and uncouth effect on this place of holiness with its ambling crowds of pilgrims

is quickly smothered under weeds. Secondary jungle then springs up, and in eight or ten years the trees are big enough to be felled and burnt again.

Owing to the dense blanket of jungle which covers the country, and to the bad communications, little is known of the geological structure. The parallel hill ranges, to west, north and east of

the Irawadi, are composed of igneous and metamorphic rocks, chiefly limestone and gneiss; in this latter occurs wolfram, containing the valuable metal tungsten, used for hardening steel. Tin is also disseminated through these rocks, but not in paying quantity. The tin workings of Tenasserim are all in alluvial gravel.

The Shan plateau is built up largely of hard silurian and carboniferous limestone, and the whole country is riddled with caves, underground streams and swallow holes.

Gold is brought down by nearly every river, but only in small quantities; of more importance are the jade, amber and ruby mines. Both jade and amber are quarried in the north-west corner of the province, a district remote from the beaten track. Almost the whole supply of both goes to China. The ruby mines are at Mogok, between Mandalay and Bhamo and some 40 miles from the river, with which the district is connected by motor road. The silver-lead-zinc mines at Bawdwin in the Shan States are also famous. But the most valuable mineral found in the country is petroleum, and a pipe-line now connects the rich oil-field of Yenangyaung with the refineries at Rangoon.

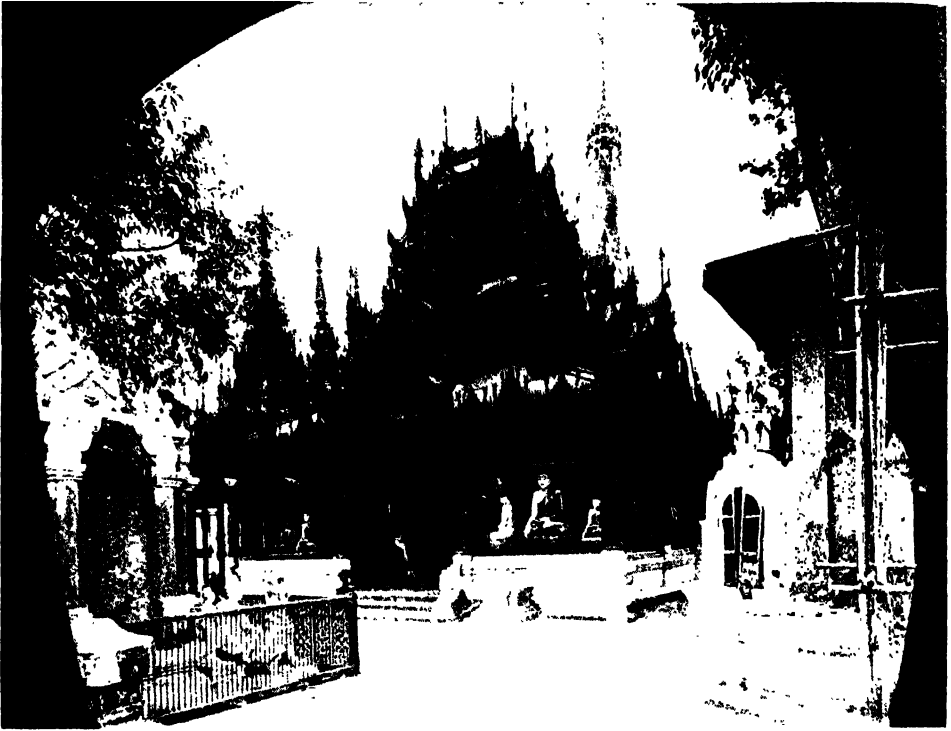
The mineral wealth of Burma is undoubtedly great, and far from fully exploited, but the country has suffered much from wild-cat schemes.

Rice and fish being the chief food of the people, fishing comes next to agriculture in importance. In the big rivers, all over the delta and round the coast many people are engaged in catching and curing fish. Nets and traps are both used, but the hill tribes hold fish drives in which an entire village may be engaged. Sometimes they poison the water. Minor and dwindling industries are weaving (cotton and silk), pottery-making and wood and ivory carving; but these are trivial compared with the great business of agriculture and fishing, and indeed are only indulged in during the dry weather.

Since the British connexion old industries have been rejuvenated by the application of modern methods



SHWE DAGON FROM ACROSS THE ROYAL LAKE IN DALHOUSIE PARK
To the north of Rangoon is Dalhousie Park with its 205 acres of beautifully wooded grounds and 160 acres of water. A road runs all round it and provides a pleasant drive from the city past market gardens and fruit plantations. The pagoda lies in the west and farther to the north are three smaller lakes and the Golden Lion Pagoda



Col. W. J. P. Ridd

STATUE AFTER STATUE OF THE BUDDHA UNDER A CARVEN CANOPY

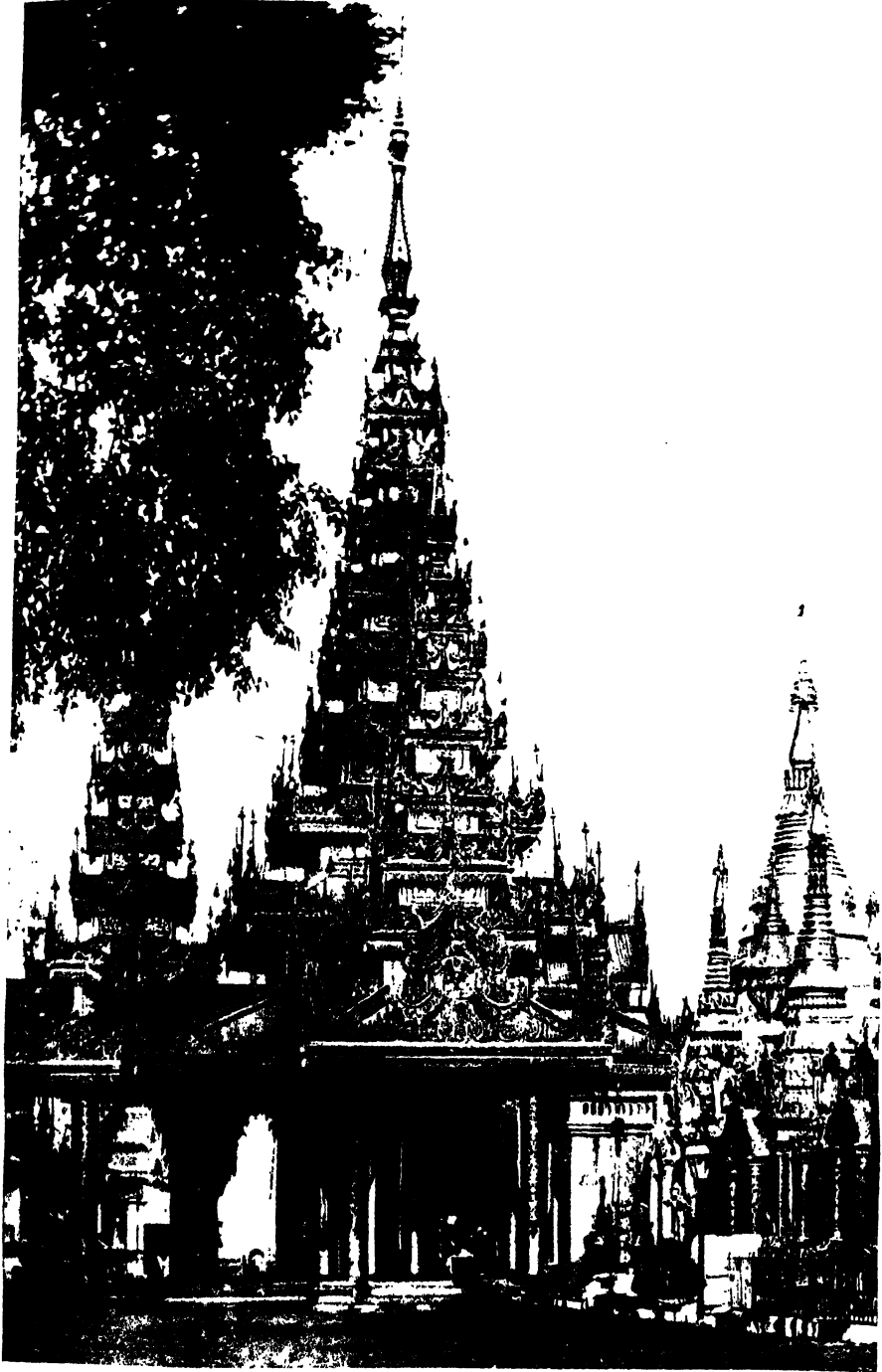
The edge of Shwe Dagon's upper platform is smothered in shrines. In all are to be found numberless images of "the Lord of Heaven" in all sizes and in various attitudes, though many miss the dignity of meditation and serenity of mien that are the essence of the divine countenance. Pilgrims come and fill these structures with their offerings and beat upon the bells that hang in hundreds

rather than new ones created. It is thus with the petroleum industry and other mining enterprises, most of which are indigenous. The tin and silver mines were formerly in the hands of the Chinese whose methods were equally crude. The rice trade, however, is the offspring of British administration and enterprise; it is a direct result of the enormous increase in the area under cultivation and of the extension of irrigation canals in the dry zone.

The shipping, factories and industry of Rangoon give employment, not to Burmans, but to natives of India. All the transport workers, coolies and railwaymen are Indians. Town-dwelling Burmans belong mostly to the educated and professional classes—lawyers, doctors, politicians and clerks. The large crowds of Burmans seen at pagoda festivals in Rangoon have mostly come in for the occasion. Owing to their

lower standard of living, Indians are supplanting the natives in many parts of the country. The former, however, cling to the railway lines, and are never found very far from them. Thus the tendency is towards an Indian urban and a Burmese rural population. Market gardening is chiefly in the hands of the Chinese, and there is a Chinese quarter in every city.

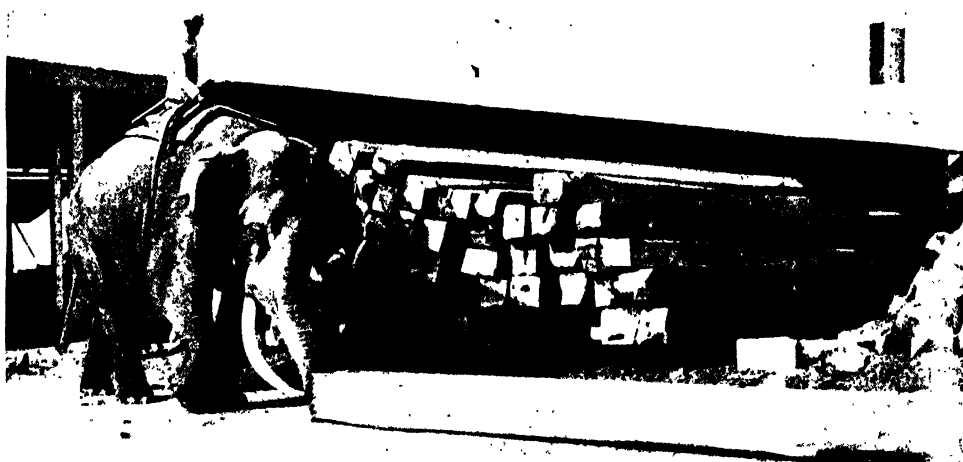
Prosaically, the chief export of Burma is not rubies but rice. The fact is, the British, with a wisdom more precious than rubies, quickly realized that rice, teak and oil were the most valuable products, and set about delivering the goods.* Other exports are hides, rubber, cutch and tin. The chief imports are even less romantic—cotton and silk piece goods. In fact, trade with Burma flourishes, despite the backwardness of the country due to its wretched communications.



Col. W. J. P. Rodd

ONE OF THE FOUR CHAPELS AT THE FOOT OF THE PAGODA

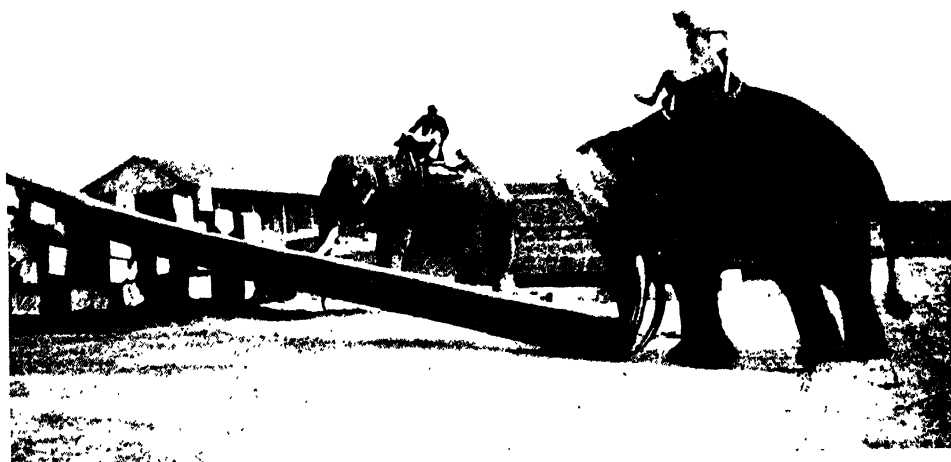
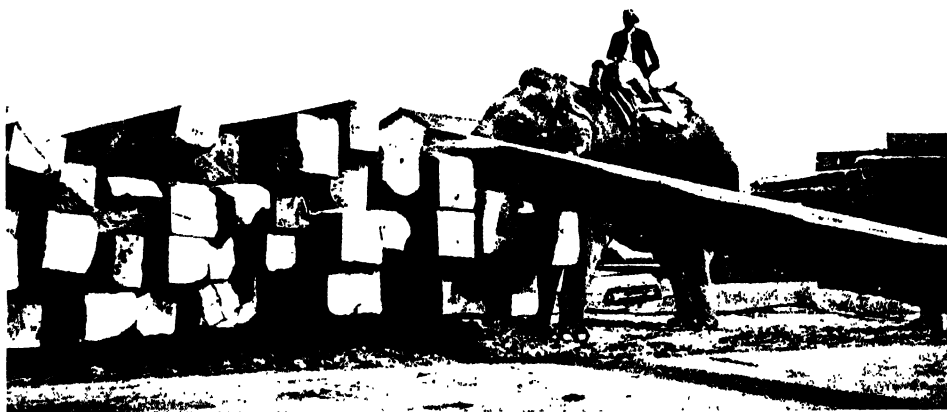
Shwe Dagon Pagoda is built upon a mound, the greatest altitude in the surrounding plain. There are two quadrilateral rectangular terraces, whose sides face the cardinal points of the compass and are ascended each by a flight of steps. The second terrace is 166 feet from the ground. On this are four chapels or chief shrines, one to each side. The opposite façade of this shrine is seen in page 1112.



Herbert G. Ponting (top) and John Bush

AMAZING DEXTERITY OF THE TEAK YARD ELEPHANTS

Easily among the most fascinating sights at Rangoon are the elephants in the teak yards. Their skill is little short of human, as may be judged from this photographic series. First we see the logs being hauled from the river; after they have been sawn up, a single plank (centre) will be balanced and carried in the trunk, or a solid square balk pushed along the ground towards its destined stack.



John Bushby

TRUNK AND TUSK IN THE SERVICE OF MANKIND

When the baulk is in position against the stack one end is lifted and carefully manipulated until it is straight; then the elephant proceeds to the other end and pushes until the baulk balances and the free end swings up; finally, a good heave with the coiled trunk and the baulk is pushed home. All of this is done without any apparent commands from the "mahout" on the elephant's back



Underwood

STATUE OF THE FOUR SITTING BUDDHAS AT PEGU

Pegu, on the river of the same name, is the railway junction of lines from Moulmein, Mandalay and Rangoon, from which last it is some 46 miles north-east. Not far from the line is the Kyaikpan Pagoda and this quadruple statue with figures 90 feet high. The figure facing west, on the farther side, was badly damaged by lightning, but the other three are intact. Their faces and clothes are coloured



Herbert G. Ponting

RETURNING FROM THE CAVES OF BINGYI IN SOUTH-EAST BURMA

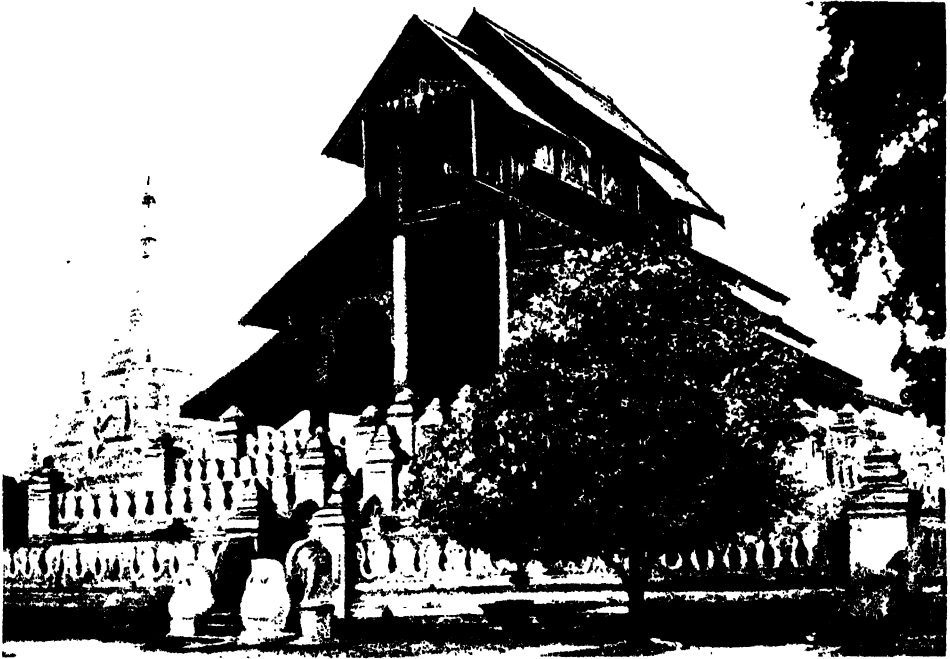
Under the mountains, one of whose limestone crags juts its shaggy height above the trees, are some wonderful caves. These are much frequented by pilgrims who go to see the many statues of Buddha that have been placed there. Lining the road is an avenue of "pe" palms, whose leaves, when dried, are used instead of writing-paper. The trees mature in about fifty years, flower, fruit and then die



REFECTORY AMONG THE MANY HOLY BUILDINGS OF BURMA'S ONCE ROYAL CAPITAL AT SAGAING
 Sagaing lies upon the right bank of the Irawadi, opposite the old town of Ava, a few miles down the stream from Mandalay. Its site is exceptionally beautiful, being reached on three sides by the river, about 4,000 yards across at this point and flanked by cliffs whose brows are crested with pagodas. Among the shrines, which are seen in the picture, and decorated with sculpture, and where pilgrims visit and the monks deliver long addresses.

The Irawadi is the chief artery of Burma. The railway runs from Rangoon to Myitkyina, on the Upper Irawadi, a distance of 720 miles. There are branch lines to Prome, Bassein, Moulmein and Lashio near the China frontier. There are no great trunk roads in the province.

parts of the world, and a big trade is carried on with Europe, India and Japan. Also, since the British opened the way to China, there has been an ever-increasing overland trade with Yun-nan, everything being carried over the mountains on the backs of mules.



UNUSUAL DESIGN OF AN IDOL HOUSE AMONG THE PAGODAS OF SAGAING

After an orgy of the highly decorated and stereotyped style of Burmese architecture, this structure comes as a surprise. The arches in front suggest, strangely, a Moorish influence, though the ornate balustrade surrounding the building is of the usual design. The chief pagoda of Sagaing is the Kang-bmu-Daw, which raises its great bell-shape out of the neighbouring plain apart from the rest.

Most of the country roads, being unmetalled, are impassable in the rains and uncomfortable in the dry weather. Much of the outlying delta country can only be reached by boat, and to reach the Akyab and Tenasserim divisions it is necessary to take ship; though a railway between Moulmein and Tavoy, which some day will link up with the Malay States Railway and connect Rangoon with Singapore, is under construction. In fact a big railway development programme has recently been sanctioned by government. But roads are badly needed.

Communications with the outer world are better. The wealth of Burma attracts ships to Rangoon from all

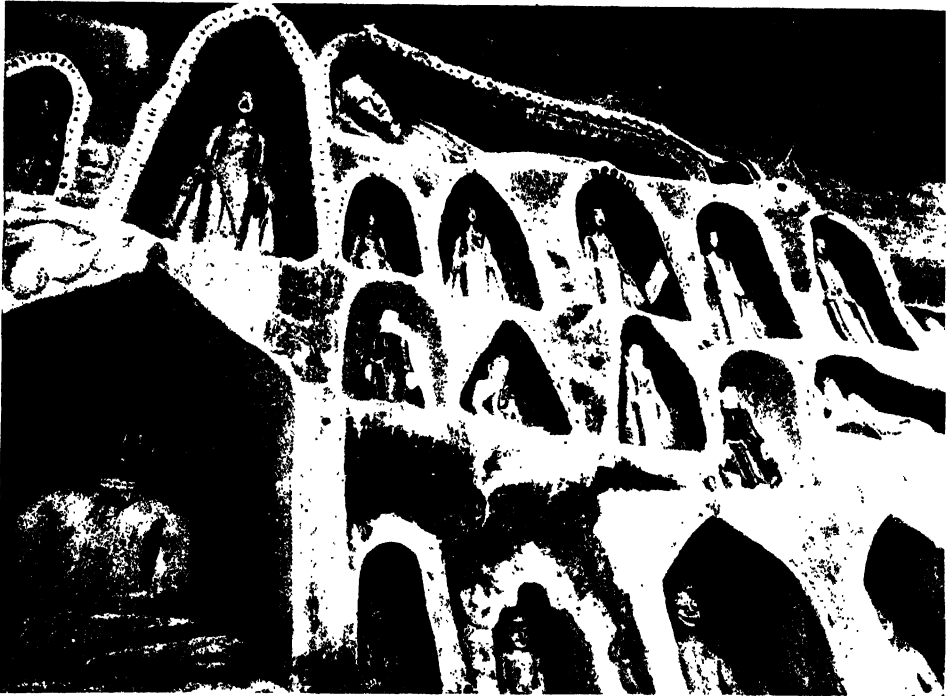
Burma is connected with Europe and the Far East by cable; and there are several wireless stations round the coast connecting with India and Singapore.

Though by far the largest province in the Indian Empire, Burma has scarcely half a dozen towns worthy of the name. Rangoon, the capital, is a modern city and a great seaport; the only thing Burmese about it is the golden pagoda called Shwe Dagon—the first thing visible from whichever direction you approach. Mandalay is the old capital of Upper Burma; but as it was founded less than a century ago is of no historic interest. It is chiefly noted for its modern—and usually

hideous—pagodas. The capital has, however, been hereabouts for ages: Pagan, a famous collection of wonderful old pagodas, Amarapura and Ava were each in turn the capital. Moulmein was the first British capital and seaport before the taking of Rangoon in the second Burmese War. It is still the most picturesque town in the country. The population is largely Talaing and Chinese. Tavoy and Mergui in Tenasserim—the latter little more than a

of 148,900, while Moulmein is even more torpid. The rest hardly count as towns. There is nothing aesthetic about Rangoon except the incomparable Shwe Dagon, while Mandalay is usually so smothered in dust as to be only partially visible. The so-called Arakan Pagoda is notable.

Burmese villages if lacking in sanitation are always picturesque. They stand near the fields, shaded by palms, jack trees and "padonk," which last



GAUTAMA IN VARIOUS POSTURES IN A PAGODA WALL AT PROME

Prome is built on the left bank of the Irawadi and is the terminus of a line from Rangoon. It is haunted by pilgrims, one of the most sacred places being the Shwe Sandaw pagoda, 180 feet high. It is surrounded by more than eighty little temples whose bases form a wall in which are many niches containing Buddhas, standing, sitting and lying

fishing village; Bassein and Prome in the delta region; and Akyab on the Arakan coast may also be mentioned.

Rangoon, the chief city of Lower Burma, is a fine city with broad streets, large shops, hotels, parks, native bazaars, electric trams and lighting and well laid out residential areas, besides docks and factories. It has a population of 341,900. Mandalay, the chief city of Upper Burma, is less cosmopolitan and very somnolent, with a population

is said to flower three times before the rains break. The houses are built of wood, thatched with palm leaf or grass. The modern method is to roof with corrugated iron. Both villages and houses are far cleaner than in China, and the people themselves are cleaner and better dressed, though probably they do less work for it.

The Burmans themselves are a delightful but unpractical people. The Shans are the next most numerous race in the



MINIATURE PAGODAS AND LEOGRYPHS AT NAINSAN MONASTERY

Not much is left of the ancient temporal grandeur of the Shan States which once impressed travellers with the splendour of their capital, Timplan, with its double walls and fine houses. Buddhism has, however, some monuments reminiscent of the past when Timplan had its 2,600 pagodas, and this little collection at Nainsan monastery makes up in ornament what it lacks in magnitude.



HILLSIDE HOVELS THAT FORM THE CAPITAL OF A SHAN STATE

Lying between Eastern Burma, Northern Siam and China, the Shan States have an area of about 54,000 square miles and a population of some 1,400,000, descendants of a once powerful nation. These states are administered separately from Burma, and though many of the towns—this collection of huts is called the "town" of Nainsan—have decayed there is a lively farming industry.



John Bush

BHAMO, FARTHEST UP-STREAM PORT OF THE IRAWADI NAVIGATION

Some 300 miles north east of Mandalay, Bhamo is only 100 miles from the Chinese frontier and capital of the district of the same name. It is the headquarters of the trade between Burma and China and has a British garrison, its population being about 10,000. The river hereabouts has the appearance of a series of lakes, owing to its winding course between hills which shut off the view

province. Of the many hill tribes the most vile are the Kachins. Along the Burma-China frontier are other tribes, including the Karens, who are second only to the Kachins in number. Most of these have come into closer contact with the British and their administration than have the Kachin tribes of the extreme north. In the extreme south of Tenasserim are a few Malay fishing villages and Siamese and Chinese settlements; and on the islands of the Mergui Archipelago dwell the poor

Selungs, the sea gypsies, who live a nomadic life in their boats. The Chinese met with in Upper Burma come mostly from the province of Yun-nan, while those settled in Lower Burma—the majority—come from Canton, Fokien and the south generally.

Burma is administered by a governor, assisted by an executive council and a legislative council of elected members. It is a vast province but in great part unexploited, and under skilful direction should produce ever-increasing wealth.

BURMA: GEOGRAPHICAL SUMMARY

Natural Divisions. A gridiron of mountains folded up as part of the Himalayan uplift against the Chinese plateaux in the south of the ancient Angaraland. The line of folds is continued by the Andaman and Nicobar islands to Sumatra and Java. Lower Burma is alluvial. Cf. the Ganges delta. The political boundary on the east lies along the ancient plateaux.

Climate. Monsoon in Lower Burma, with two seasons, wet and dry. Rain shadow (dry belt) area in Central Burma. Three seasons—hot-dry, wet and cool-dry in Upper Burma. Cf. Upper Indus areas.

Vegetation. Swamp and jungle in the delta. Cf. Sundarbans. Jungle forests at base of mountains. Cf. Terai in North

India. Forests, Alpine meadows, mountains.

Products. Rice for export. Teak for export. Rubies, amber and jade; silver, lead, zinc; petroleum.

Communications. Railways and rivers, but only poor roads. As a rule in Upper Burma it is quicker to travel by water between two riverside posts than to cross the intervening mountain ridge. Practically no outlet of importance on an frontier; most traffic by ship.

Outlook. Alien peoples—British overseers and Indian coolie labourers—exploited Burma. The natives are indifferent, and the future lies with the needs of India and the rest of the world.

From the Editor's Desk—(continued)

savoured "Tedious Brief Tales of Granta and Gramarye"! Mr. Osborn, too, should need no introduction, although readers of the "Morning Post" will know him better under his initials "E. B. O."

More Points about our Maps

I AM still receiving a certain amount of criticism concerning our maps, from which it appears that the principal desire is that they should be given in colour. As I explained a short time ago, this would make our publishing expenses almost prohibitive—in which connexion I feel tempted to ask my readers to compare the bulk of *COUNTRIES OF THE WORLD* and the number of illustrations it contains with similar publications at present on the market. In the main, then, it is unnecessary for me to repeat what I said in Part 9 on the subject of our maps, but there is one letter which I should like to quote, as I think that it illustrates a slight misconception of the purpose of the whole work:

Dear Sir, As a student of geography and a keen reader of *COUNTRIES OF THE WORLD*, may I offer my only criticism of that work.

From the publication of the first Part, I was disappointed with the maps accompanying each article. These, I suggest, would have been very much easier to follow, if they had been coloured, and on a larger scale. Where there are mountain ranges in a district with a big population, and many towns—e.g., S.E. Australia, the small scale results in a closely packed mass of detail, contours, rivers, town names, etc., very difficult to follow. I would have suggested coloured folding plates on a much larger scale than the maps published showing the land altitudes in colours. Personally, I have several very good atlases, and always use them when studying the different parts, but when the Parts are bound, the volumes would seem to be incomplete without maps on a reasonable scale, fully illustrating the text.

Possibly other readers have written on the same point, but although I have criticised the maps, I would like, at the same time, to express my appreciation of the articles and photographs, which I consider excellent.

Yours, etc., H. S. H.

19, Alexandra Avenue,
Limestone Road, Belfast.
April 24th, 1924.

Atlases and "Countries of the World"

A PART from the lack of colour, it will be observed that my correspondent's chief complaint is that *COUNTRIES OF THE WORLD*, when bound and complete, will not fulfil the functions of an atlas, and that he himself has to use it in conjunction with atlases. To this I would reply that the work was never intended to usurp the functions of

an atlas. Atlases, and good ones, exist in plenty. "Harmsworth's New Atlas of the World" has already been produced by this publishing house and should form an admirable companion work to *COUNTRIES OF THE WORLD*; and without in any way disparaging the scope of atlases, the present work is designed to supply just that kind of information in which the former are quite deficient. In view of this, it has not been considered expedient to waste money and space in trespassing on the legitimate scope of an atlas namely, in producing maps complete in every respect. Our maps are intended to be guides to the text; but at the same time, as even my correspondent admits, the amount of information condensed into them is really astonishing.

Letters from Overseas

PERHAPS, however, I have devoted over-much space to the elucidation of this one point; I certainly do not desire my correspondent to think that I have overlooked his concluding paragraph, or to imagine that I bear him any ill-will for his well-meant suggestions. I only wish that these notes afforded me more space in which to quote from the many interesting letters that reach me from all over the globe, most of them without a word of criticism for *COUNTRIES OF THE WORLD* and many containing extremely helpful suggestions from which I have profited or hope to profit in the future.

Explosions in Bukarest

NOBODY, I hope, will think me heartless if I instance the terrible explosions that have just occurred in Bukarest as an example of the difficulties under which we labour. Just when the pages of this Part had gone to press, and it was too late to recall them, the news came to hand that the royal palace at Cotroceni, the bourse, the arsenal and barracks, several schools and many other buildings had been destroyed, that fires were raging and that certain loss of life had been entailed. As chance would have it, the statements in the chapter in question are hardly affected; but since this Part will be published some weeks after the disaster, I would not like those Rumanians who may read it to interpret as callous indifference the absence of all reference to their misfortune. All I can do is to offer my sympathy to the sufferers, at the same time hoping that the reports have been exaggerated, as they often are at first.

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deserted temples were thronged by hustling crowds and devout worshippers—they roll back for you the curtain of time and cause to live again the world as it existed before Abraham tended his flocks on the plains of Chaldea. The photographs of existing monuments and the reconstructed pictures of what they were in the height of their glory invest these pages with a vivid interest that gives this great work a fascination unapproached by any former attempt to deal with the great subject of which it treats.

Prof. A. H. Sayer, late Professor of Assyriology at Oxford University, writes:

"If the British public refuses to listen to the voice of the chimney, nothing will ever make it interested in the history of the past. Archaeology owes you a great debt."

Sir J. Balfour Paul, Lyon-King-of-Arms, writes:

"Allow me to congratulate you on the 'Wonders of the Past,' which you have edited with much skill and judgment."

Joseph Kenworthy, Deepcar, Sheffield, writes:

"Allow me to congratulate you on the work you are doing in placing before the public such a treasure-house as 'Wonders of the Past.' I am the older to have lived to see and revel in such a book in my old age, and thank you for bringing into reality the dream of my youth and manhood."

Mirza Muhammad, Khan Bahadur, Punjab, writes:

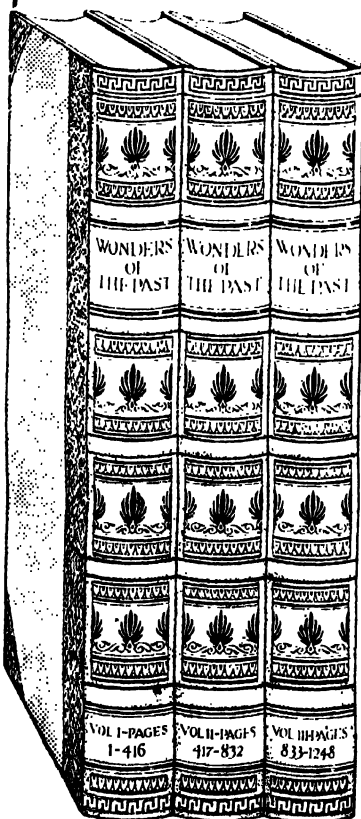
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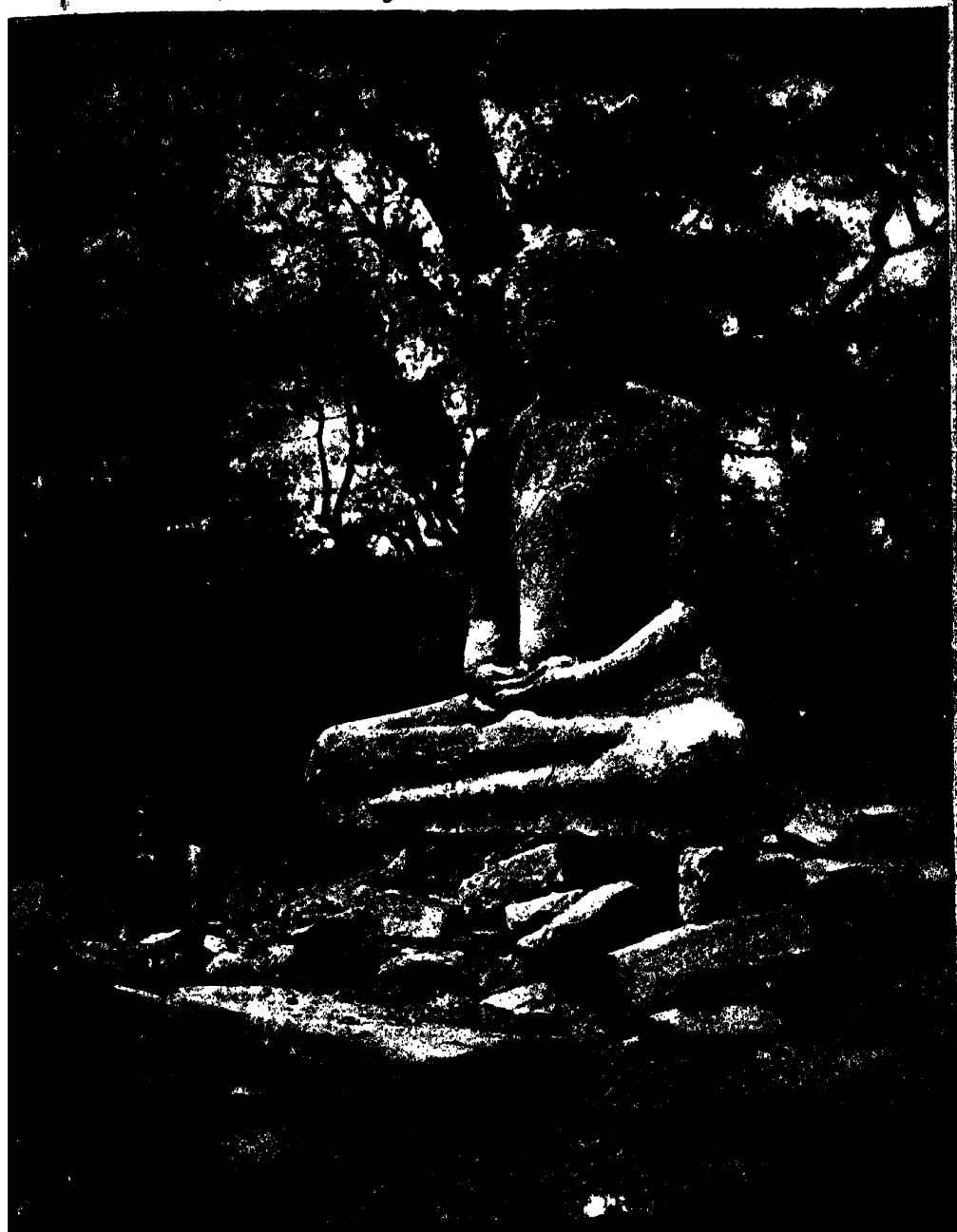
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ture's Lovely Hues in Ceylon & Central America

13 COUNTRIES OF THE WORLD

Edited by J.A.Hammerton



work in the city itself. As soon as a vessel comes into view numbers of these boats bear down upon it, each displaying a huge flag or rather sign in large Chinese characters offering services or commodities.

What the total population of Canton is no one can say with exactness. Some authorities place it as high as two millions, others at one million and a half; the Post Office estimate in 1920 put it at 1,367,680. This immense population draws its support mainly from the rich province of Kwangtung, whose area is larger than that of Great Britain and Ireland combined, and from the adjoining province of Kwangsi. At one time, and still theoretically, the two provinces constituted one government known as the Two Kwangs, and the viceroy's or governor's "yamen" was and is in Canton. The city has the great advantage of a fine climate. Though it is situated in the tropics, it is not unhealthy for Europeans. The temperature ranges between 40° and 97° F. In the summer it gets the trade

winds, with heavy rains, but the rainfall averages only about 70 inches annually. Climate apart, the greatness of Canton is derived from the fact that it is the commercial and economic capital of South China.

From the fine Long Bund or embankment on the river front the city itself, which has a circumference of six miles, stretches away solidly to the north in a vast parallelogram. Most of it lies on a flat, alluvial plain, but in the north the ground rises into a hill some 1,200 feet high. Some miles beyond are the picturesque White Cloud Mountains. The city proper used to be enclosed within a brick wall, 25 feet high and of an average thickness of 25 feet, though in places it was 30 feet thick. This great wall was built in the eleventh century and was pierced by seventeen gates, but recently the entire line of fortifications was demolished. This, the major portion of Canton, is divided into two parts: the Old City in the centre and north, and the New City in the south, and they were separated



VARIED TYPES OF DWELLINGS IN THE OLD CITY OF CANTON

In the native homes of China nothing is seen of the architectural dignity and grandeur which characterise most Chinese temples and palaces. The houses, of one or two storeys, have balconies under overhanging eaves supported by pillars and light is usually admitted through lattices. Even on the narrow waterways in Canton's Old City sampans or flat-bottomed boats are found



PANORAMA OF THE NATIVE QUARTER OF CANTON, A DENSELY-POPULATED CITY OF THE CHINESE REPUBLIC
 Most cities of China are built very much after the same plan. The streets are usually so narrow as to be almost impassable to wheeled traffic, and what drainage there is—in many places it does not exist at all—is very defective. Canton is no exception in the matter; however, the streets are not so narrow as in other Chinese cities. In fact, they are so wide that they are almost entirely hidden by the queer craft of the floating population



E. N. A.

VIEW OF CANTON, THE COMMERCIAL CAPITAL OF SOUTH CHINA, FROM THE EUROPEAN QUARTER
 Canton, the chief town of Kwangtung, the southernmost province of China, is one of the principal commercial cities of the country, and though the rapid development of Shanghai has somewhat curtailed its trade, the city has still extensive and important activity. The greater part of it is built on a flat alluvial plain watered by the Chu-kiang river, but in the north hills are found rising to 1,200 feet. This view is from the European quarter, which stands on an artificially constructed island known as Shameen; in the background to the right are dimly seen the twin towers of the Roman Catholic Cathedral



E. N. A.

SCENE ON THE SHAMEEN CANAL SHOWING THE WATER HOMES OF CANTON'S FLOATING POPULATION

At all China's large ports and on many of the rivers in the southern provinces an enormous floating population living entirely in boats is to be found, and a feature of Canton river is the large number of these boats which are used by their inmates as permanent residences. This is a view of the canal which separates the Chinese city from the foreign concessions. It is 100 feet wide and extends along the northern face of the Shameen settlement, or European quarter, which, once an extensive island that has been cut off into a doubtful island, was a separate island at its best.



G. Stewart Jones

BUSINESS AND BUSTLE IN A CANTON STREET BORDERING THE TREE-FRINGED SHAMEEN CANAL

Lying on the Chi-kiang, sometimes known as the Pearl or Canton River, about 80 miles from its mouth, Canton is favourably situated for a commercial life, though the shallowness of the harbour is somewhat of a drawback. It was the first Chinese port opened to trade, the Portuguese being the first Western traders. After their arrival in 1517 intercourse was gradually established with Europe and Canton is now the chief commercial city of southern China after Hong Kong, the wonderful British colony some 40 miles to the south. The principal exports are silk and matting, while the imports include cotton and woollen goods, raw cotton and petroleum



E. N. A.

HOW MILLIONS OF CHINA'S RIVER POPULATION SPEND THEIR DAYS: HOUSE-BOATS IN CANTONESE WATERS

It is estimated that some 50,000 Chinese live on the waterways of Canton and opposite the city for the space of some four or five miles the riverine houses on the Chu-kiang may be seen so closely packed one to another as to resemble a floating town. On them whole families, sometimes including several generations, have their homes, and here they spend part of the day of their lives, and here they undertake transport work or such other work as their boats may be fitted to do. The boats are of various sizes, and the houses are of various heights, but they are all built on the same principle, and are all of the same material, and are all of the same color.

by a cross-wall, also high and thick, which was erected in the sixteenth century. On both the west and the east sides of the city proper are extensive suburbs. There is another suburb on the south between the site of the former wall and the Long Bund. The European quarter or settlement, called the Shameen or Shamien, also lies on the south, a little to the west. A considerable suburb exists on the south side of the river in the island of Honam.

Outside the Shameen, which is virtually a bit of Europe transported into Asia, the houses of the Cantonese are for the most part small, one storey buildings and the vast majority of them are shops, open in front, with the goods displayed and in many cases the process of manufacture well in view. As in front of these shops there is some sign in the shape of a banner or perhaps a post signifying the nature of the business carried on, and as these banners and posts are of all sorts of shades, the riot of colour may be imagined--it is extremely picturesque and even fascinating. Canton has something like 500 streets, some long and fairly wide, but the greatest number of them very narrow--many are about nine feet across but not a few are only four feet. As streets go in China the streets of Canton are tolerably clean, though they are smelly enough; but it is not a smell that is peculiar to the city or even to China; it is the smell of the East. Some rhapsodise over it, but there is really nothing nice about it; yet after a while one gets used to it and



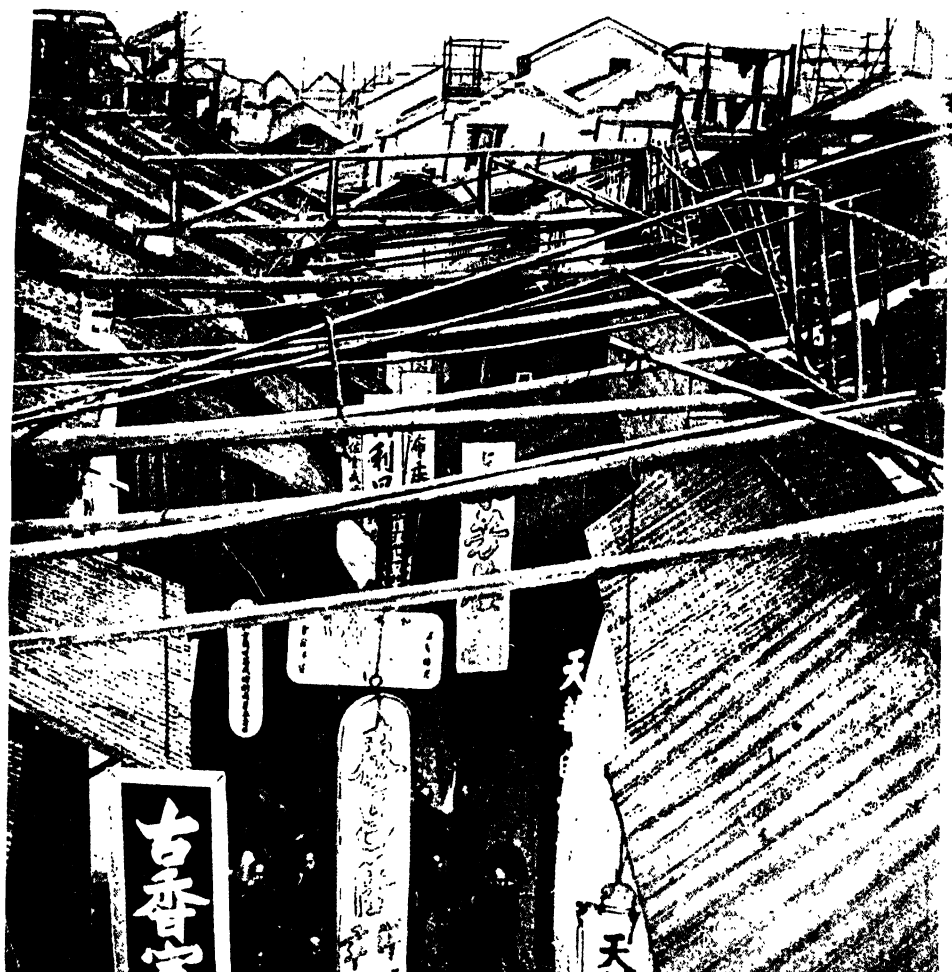
Underwood.

CARVEN IMAGES IN A BUDDHIST TEMPLE

Numerous temples, mainly gloomy-looking edifices, are scattered about Canton. Among the most noteworthy is that of the Five Hundred Genii, a building which covers several acres of ground and contains 500 large images of the disciples of Buddha

hardly notices it. A feature of Canton, as of most Eastern cities, is that whole streets or parts of streets are given over to particular trades or businesses--for example, there is the street of the silk-workers, the street of the ivory-carvers, the street of the shoemakers, and so on.

Canton, however, does not consist wholly of little shops and narrow streets. It has some large modern buildings and also contains 125 temples and pagodas, some of them of great interest. Among these may be mentioned the Temple of the Five Hundred Genii, or Walamtsz, the Five Genii Temple, or Ngsinkwan, and the Temple of Horrors, or Shingwongmin. The first, which covers several acres, has 500 life-size, gilded



ONE OF CANTON'S NARROW AND DIMLY LIGHTED THOROUGHFARES

From these housetops the night watchmen look down into the narrow streets of the native quarter; the network of bamboos between the roofs forming convenient bridges. Canton of the Cantonese remains strictly Chinese and has been described as a "colossal ant-hill" with an "endless labyrinth of streets a dozen feet wide and a score high, crowded from daylight to dark."

figures of the disciples of Buddha and three enormous figures representing the Past, the Present and the Future Buddha. The second has five rough-hewn figures which are supposed to suggest the five genii who according to an ancient legend came riding on rams to Canton. The third has five halls in which are shown groups of figures undergoing all the tortures of the Buddhist Hells. Canton has also a cathedral built by the French Mission. In the Shameen are the consulates, many fine residences and some public gardens and tennis courts:

There is perhaps no other place in all the world where the pulse of life races as it does in Canton. Its streets are crowded all day long with people of high and low degree jostling each other amid an incessant babel of shouts and cries; what an impression of life, colour, movement, sound! Perhaps it will be more striking when Canton completes its great railway to connect with Hankau and Peking. At present, the city has only some 300 miles of railways—to Kowloon, to Samsoi and to Shiuchow—but that is no more than the beginning of its railway possibilities.

CAPE OF GOOD HOPE

Veld and Kopje of South Africa

by Ian Colvin

Author of "The Cape of Adventure," etc.

THE Cape of Good Hope, that is the southern end of the African Continent, became a political unit by the natural growth of a European settlement. From Cape Town, its chief port and its capital the tavern, as it used to be called, of the Indian Seas successive Dutch and British governments spread their influence and their settlers until at last the enormous area occupied and the difficulty of administering so vast and wild a region prompted them to stop at such boundaries as seemed most convenient.

To the north, the great westward-flowing Orange river served for a time; but the lure of the diamond fields and the necessity of giving the diggers the benefits of law and order drew the government north of the river at one part into Griqualand West, thus opening the great road into the interior. On the east the expanding settlement was gradually brought to a stand by the increasing density and warlike nature of the native population, and the mountain ranges of the Drakensbergen. So it came about that, in the end, the Cape Colony stopped its irregular and cumbrous growth with an area of 276,966 square miles, or 59 per cent. of the whole Union of South Africa, of which it now forms a province.

How Rain Comes to the Cape

Within that wide region the climate is surprisingly uniform, yet has certain variations. The waters of the Indian Ocean, which bound it on the south, are warm and its skies humid, and in the summer its south-east trade winds bear a heavy load of moisture to the east and north-east. The South Atlantic, which bounds it on the west, is bitterly

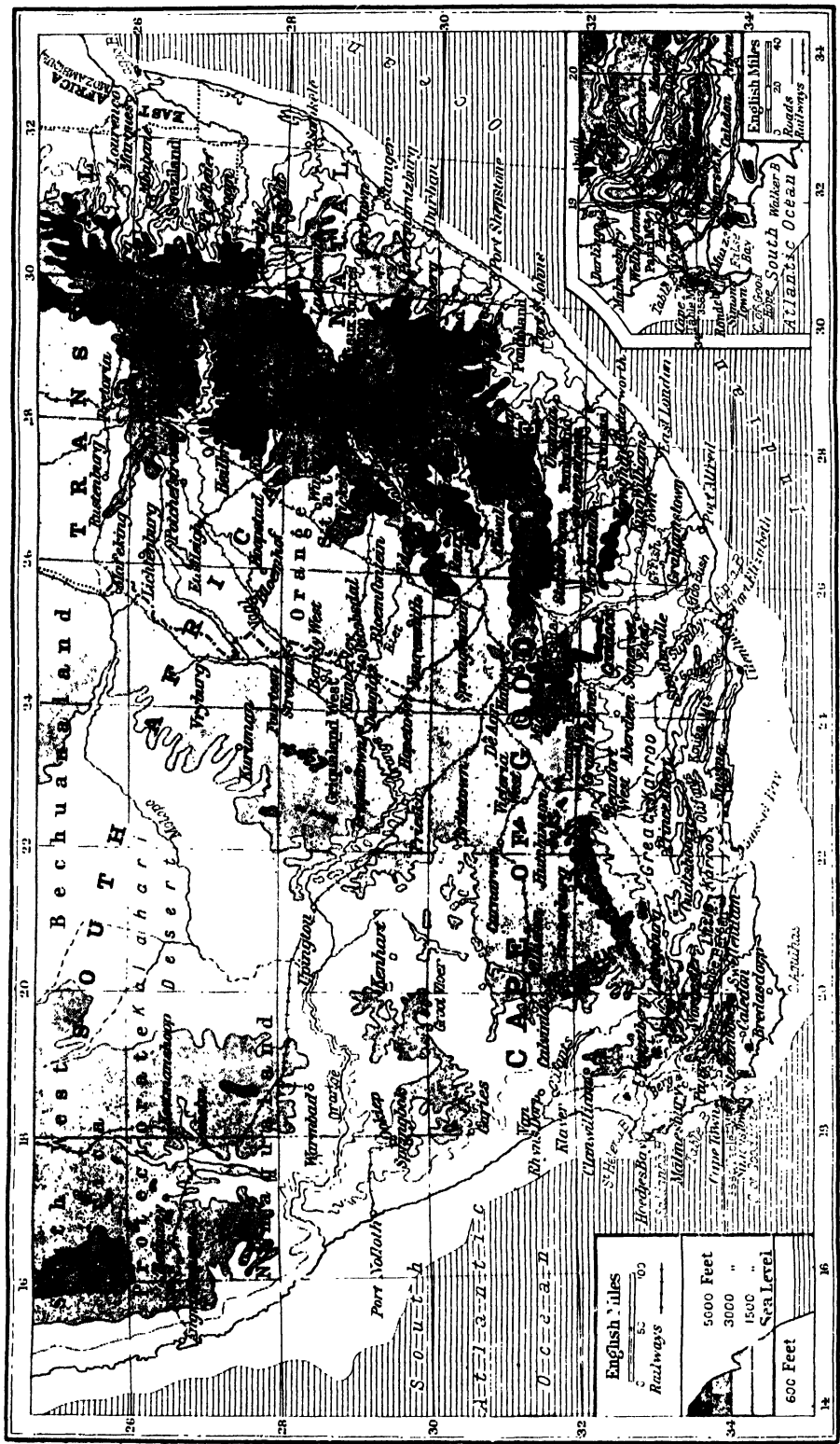
cold and its contribution of rains is less copious; these come principally on the north-west wind in the winter time, and on them the western and south-western parts of the province chiefly depend for moisture.

The clouds of the south-east are caught by mountain ranges which rise in three great concentric terraces from the coast land to the interior. These form a broad and broken belt of mountain and valley, the mountains usually bare and precipitous, the valleys often well watered by perennial streams.

Walls of Water 20 Feet High

It was in these rich mountain valleys near the sea that the Dutch and French Huguenot settlers first laid out their farms and homesteads, and they have left a permanent mark on this region, adding to its natural loveliness the beauty of vineyard and oak wood, of cornland and poplar grove and stately old colonial mansion.

The mountain ranges rise in natural steps until they reach their highest chain in the central system which is a continuation of the Drakensberg range of Natal, finding its highest peaks of over 7,000 feet in the Stormbergen. This interior chain is the chief watershed of the province from which its rivers flow. Many of the rivers, more particularly those which go towards the west, are only dry beds for the greater part of the year, but become old floods after heavy rains and sometimes sweep along, a solid wall of water 20 feet in height, dangerous to life and denuding the country of its too scanty surface soil. Save for the Orange, the province is not a land of great rivers; but on the west Oliphant's and the



MOUNTAINS AND RIVER SYSTEMS, SEAPORTS, TOWNS AND RAILWAYS OF THE PROVINCE

Berg, and towards the south the Breede, the Gouritz, the Gamtoos, the Sundays, the Great Fish and the Kei are of importance.

When the traveller has climbed through the mountain ranges he enters an entirely different country, the vast hollow tableland of the Karroo, varying from 2,000 to 4,000 feet in altitude and sparsely clothed with a drought-resisting and succulent shrub known as the Karroo bush. Through the greater part of the year, save for this shrub, the soil is bare, hard and barren of covering, and often of a reddish tinge. The face of the country is broken by masses of shale and sandstone, sometimes flat-topped and precipitous, sometimes worn to a peak—the kops and kopjes of the veld. The surface is further diversified by the occurrence of great dykes of dolerite rock, thrown upwards in rugged and irregular shapes, and the hills, gaunt and forbidding in outline and unrelieved by any sort of vegetation, give a strange character and desolate beauty to the

landscape, especially when they are either deep in shadow or struck to a glowing fiery red by the sun. After heavy rains those barren regions are suddenly carpeted with a vivid and surprising covering of flowers.

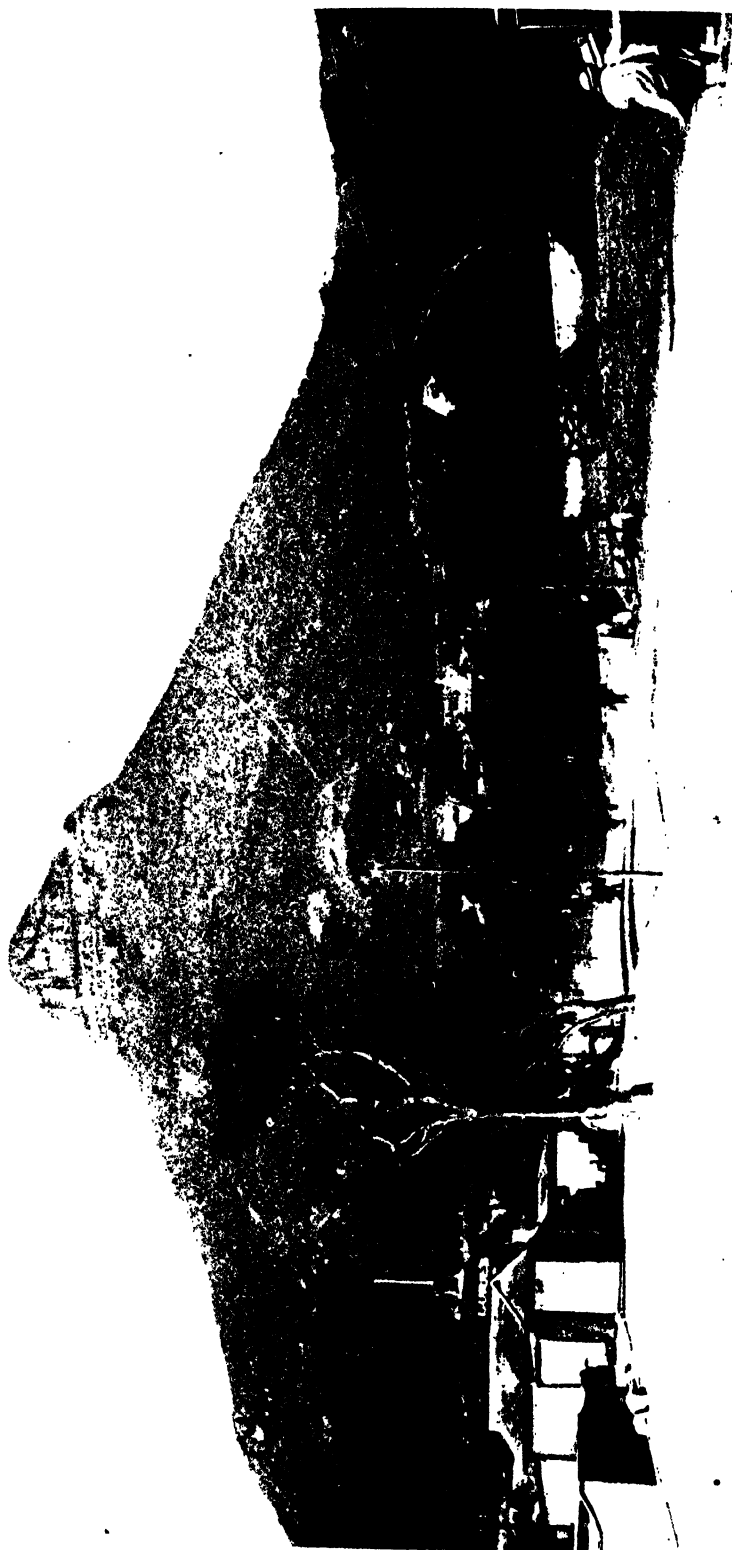
The Cape enjoys a climate of remarkable uniformity; the mean annual temperature averages about 63° F., but 125° F. of shade temperature was recorded at Main Tembuland in January, 1903, and 6° F. at Palmetfontein in June, 1902. On the plateau of the interior the climate is cool and bracing; and even in the blaze of the noonday sun sun-stroke is almost unknown; along the south coast the climate is more humid, but to most tastes more pleasant. In the seaside resorts on the shores of the Indian Ocean bathers stay in the water for hours without discomfort, although on the Atlantic side a dip of a few minutes chills to the bone.

In Cape Town and its surroundings one or two of the winter months are unpleasantly wet and cold; but generally the sky is blue for months on end



South African Railways

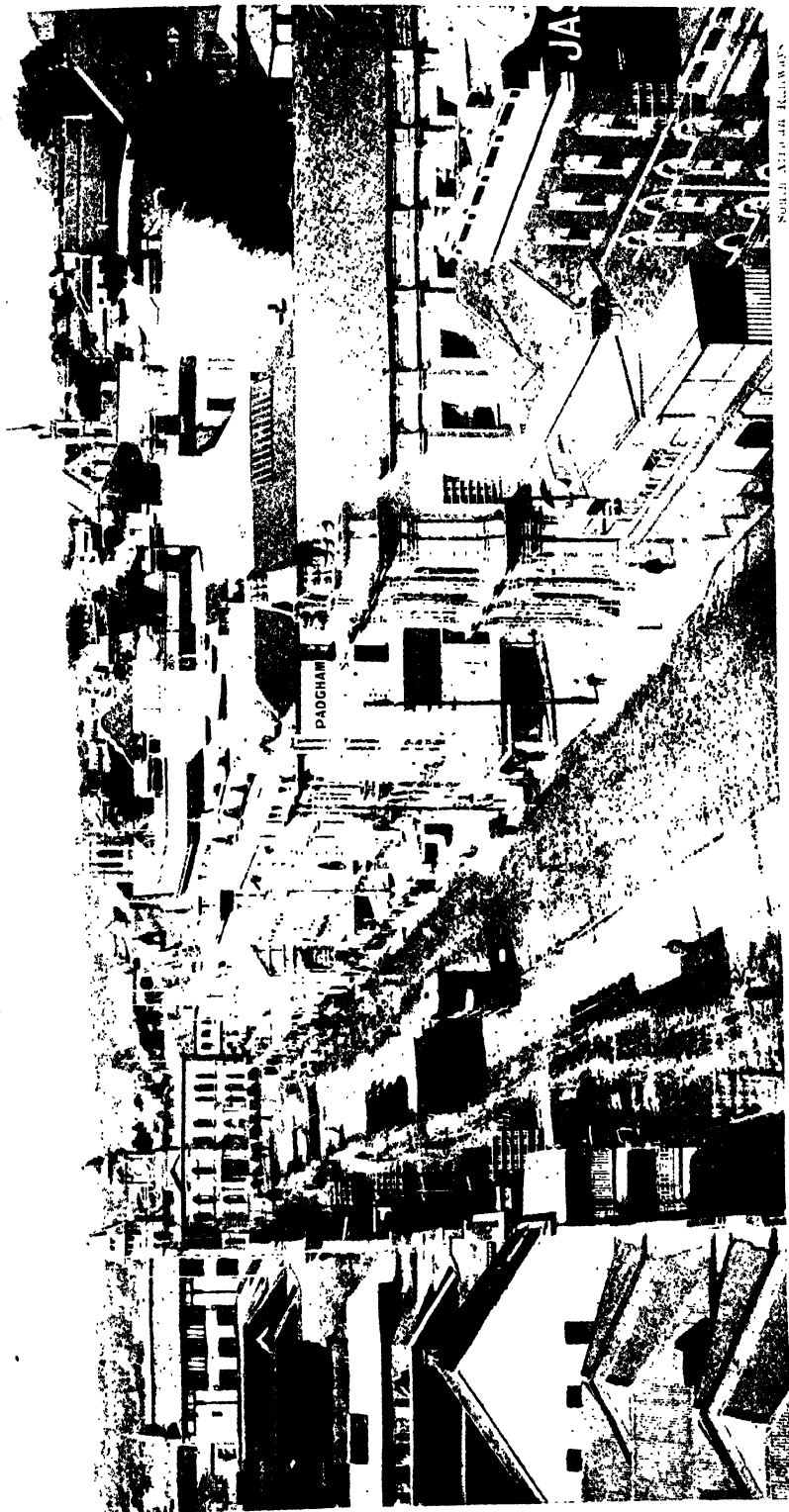
ADDERLEY PIER AND A PANORAMA OF CAPE TOWN FROM TABLE BAY
Backed by the great cliff of Table Mountain, 3,582 feet high, and with fine docks on its sea frontage, Cape Town is the capital of the Cape Province. It was first laid out in 1652 by the Dutch, and is one of the few cities that have kept some of the Dutch character; many of the old houses are still standing. The climate is kept equable by the interplay of African sun and polar breeze



WHERE THE GREY LION'S HEAD LOOKS DOWN OVER SEA POINT AND CAPE TOWN

W. S. Howard

North-west of Table Mountain a conical mass, the Lion's Head, rises to a height of 2,000 feet, with a lower peak, the Lion's Rump or Signal Hill, in front of it. The Lion's Head is now within easy reach of the heart of the city. Chat is alone, but ordinary paths give easy access to the Lion's Head. The Lion's Head is a natural amphitheatre for the city, and the Lion's Head is a natural amphitheatre for the city.



South African Railways

SOUTHWARD VIEW ALONG MAIN STREET, THE FINEST STREET IN PORT ELIZABETH

Sometimes called the Liverpool of South Africa, Port Elizabeth in sea bay is a growing seaport and distributing centre with safe open anchorage. An extensive scheme of harbour construction projected in 1904 was begun in 1903. Main Street ranks second only to Adelaide Street, Cape Town, as the finest street in the Colony. Viewed here from the north, the Mutual Arcade is on the right, with the flag-staffed National Bank farther up. At the end, in Market Square, is the City Hall, and to the right of it the square tower of the Roman Catholic Cathedral and the spire of S. Mary's Church.

and the bright sun and clear atmosphere of the Cape have made it a health resort for consumptives.

The natural vegetation corresponds to the climate. In the north and west, where the rainfall is light and fitful, the plants are equipped by nature to resist both drought and sun; in the south and east vegetation is more luxuriant and both trees and herbage approximate more closely to the European type. Yet the Cape flora is unique both in type and in the variety and strange beauty of its form and colour. In the desert region of the Kalahari, where there is no surface water, a profusion of water melons at certain seasons makes it possible for the traveller and his cattle to sojourn in this wilderness.

Moisture Stored in Vegetation

The characteristic shrubs of the western regions have also developed innumerable tiny reservoirs in their succulent and fleshy leaves, so that before the advent of the white settlers those apparently barren tracts supported enormous herds of antelopes, and now maintain even through the driest weather the cattle, sheep and goats of the Boer farmer. Under the surface vegetation stores its nourishment in a wide variety of bulbs. In marshy regions round the Cape whole tracts are golden-white with the arum lily, and the wonderful variety and beauty of the Cape heaths and proteas make the country a happy hunting ground for collectors.

Invasion of Alien Timber

The province is poor in natural forest. Parts of the north-west are sparsely covered with thorny acacia; but the indigenous cedars of the Cedarberg have practically disappeared, and the beautiful and unique silver tree which clothed the lower slopes of Table Mountain only survives in a few patches. Farther to the east is a considerable and characteristic growth of South African timber in the Knysna forest, whose yellow-woods and stink-

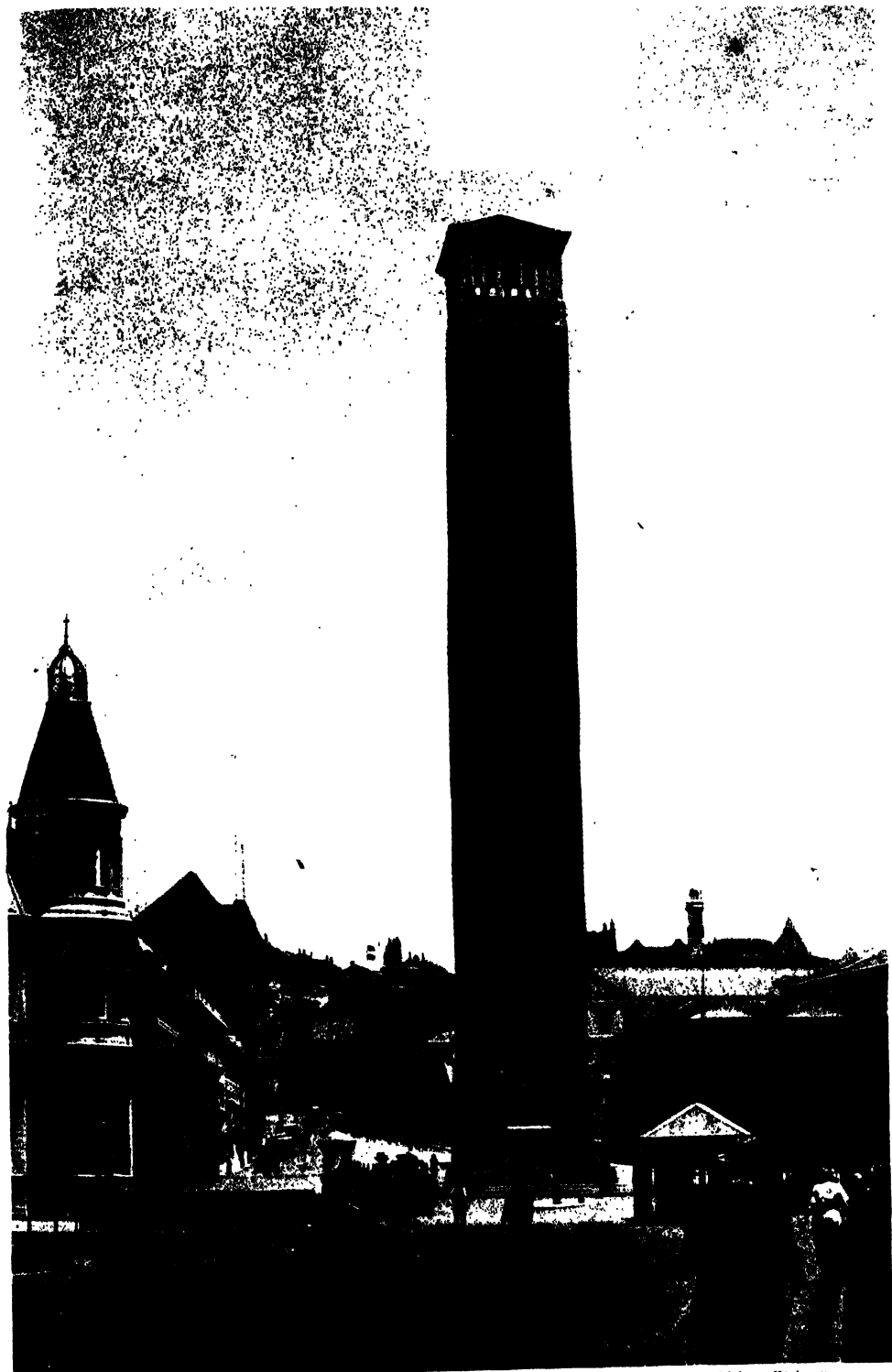
woods are still used for making wagons and furniture; but, thanks to the initiative of government and settlers the country has been invaded by European and Australian timber; so that nowadays the blue gums of the Antipodes rise to giant heights over many a South African farm; and groves of English oak and New Zealand wattle testify to the hospitality of South African soil.

The natural flora has made a better fight for survival than the natural fauna. The elephant still haunts the Addo Bush, although even here its doom has been decreed. The lion has disappeared, but the leopard is still to be found not far from Cape Town; and although the greater antelopes have retreated into the north, considerable herds of springbok remain, especially where they are protected, as in the farms of the De Beers Company round Kimberley. Varieties of bustard and sand-grouse, locally known as the Namaqua partridge, give excellent sport; the jackal has been hunted like the fox, and several of the perennial rivers are stocked with trout.

Resourcefulness of Agriculturists

The agriculture of South Africa has developed according to the necessities of its soil and its climate. Owing to the scarcity of water irrigation is usually more important than drainage. The South African farmer has laboured partly to overcome and partly to adapt himself to his peculiar conditions. He has introduced crops and domestic animals from those parts of the world most like his own; he has looked to Australia for timber which will resist drought; he has brought irrigation engineers from India to store his flood waters; he has imitated the dry-farming methods of Arizona.

The South African farmer has also used wind pumps to bring subsoil waters to the surface, and by such means in many places he has made the desert blossom like the rose. He has even brought the ostrich inside a fence,



South African Railways

CAPE OF GOOD HOPE. *This square tower in Jetty Street commemorates the settlers who in 1820 founded Port Elizabeth*

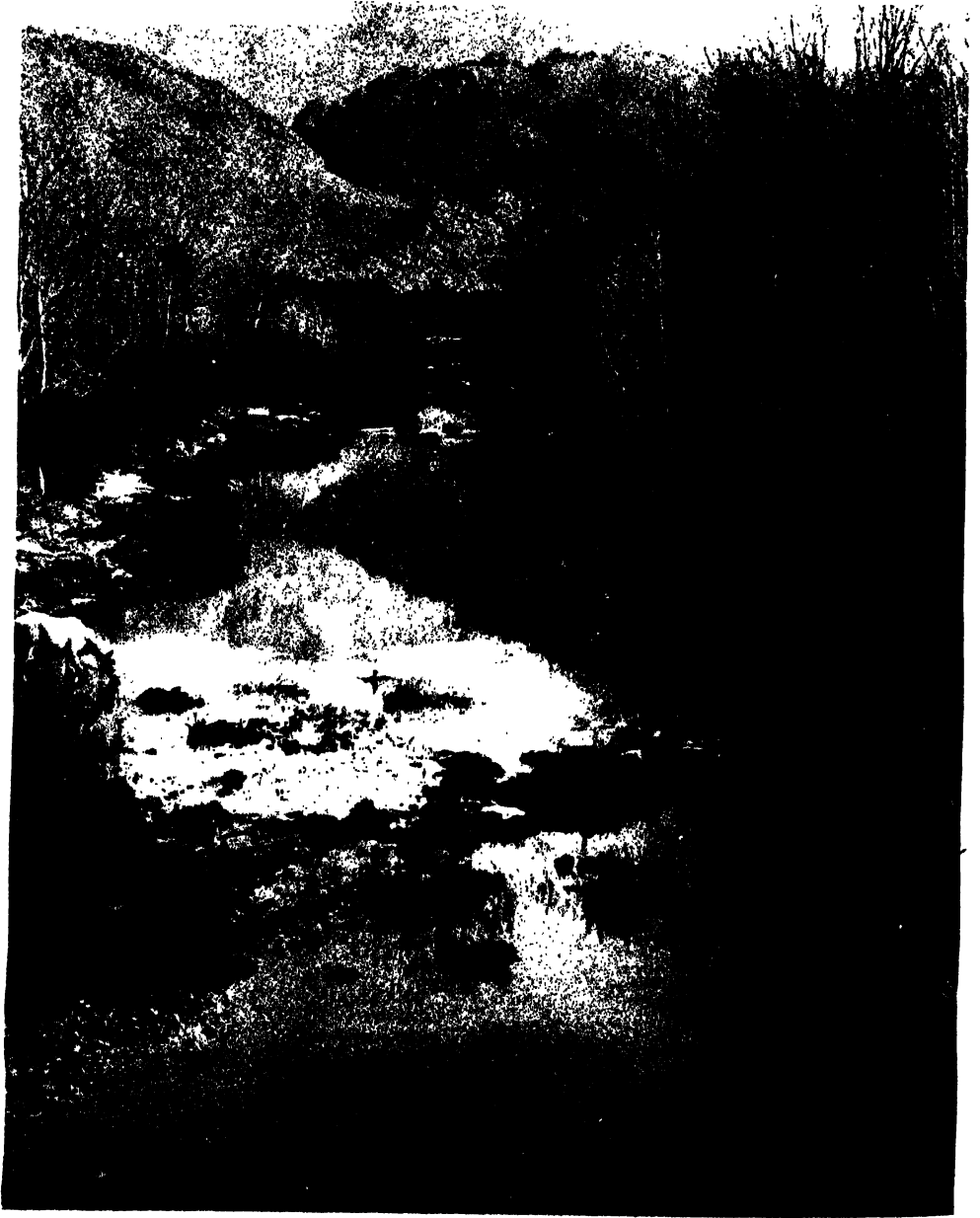


CAPE OF GOOD HOPE. Fifteen miles from Capetown, Muizenberg on False Bay is a summer resort whither people flock from November to April for sunbathing and for boating on the pretty lake here at Lakeside

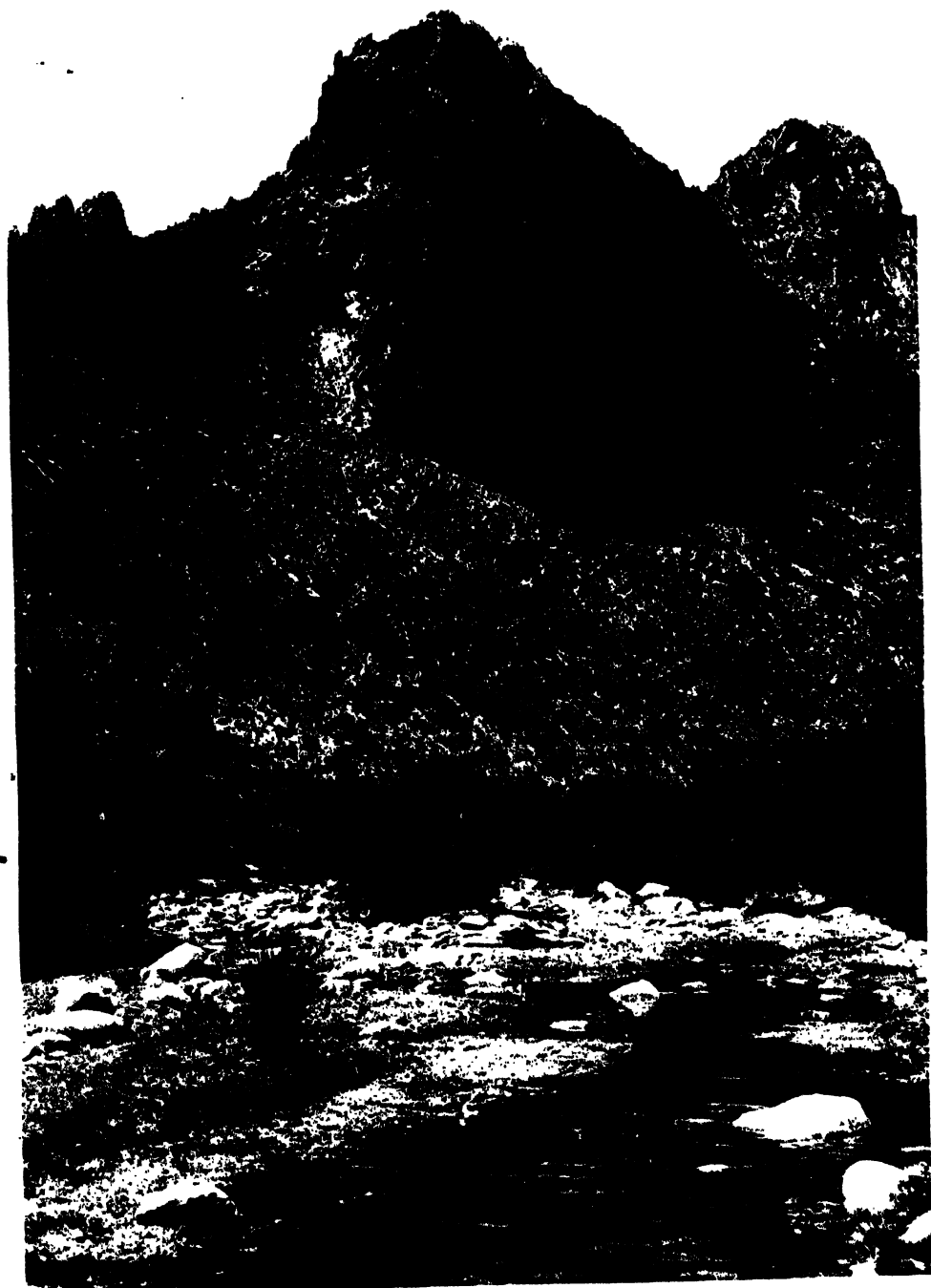


South African Railways

CAPE OF GOOD HOPE. Flowing between the vine-clad slopes of the Paarl mountains and the Drakenstein range, the River Berg near Paarl adds beauty to one of the loveliest and richest valleys in the province



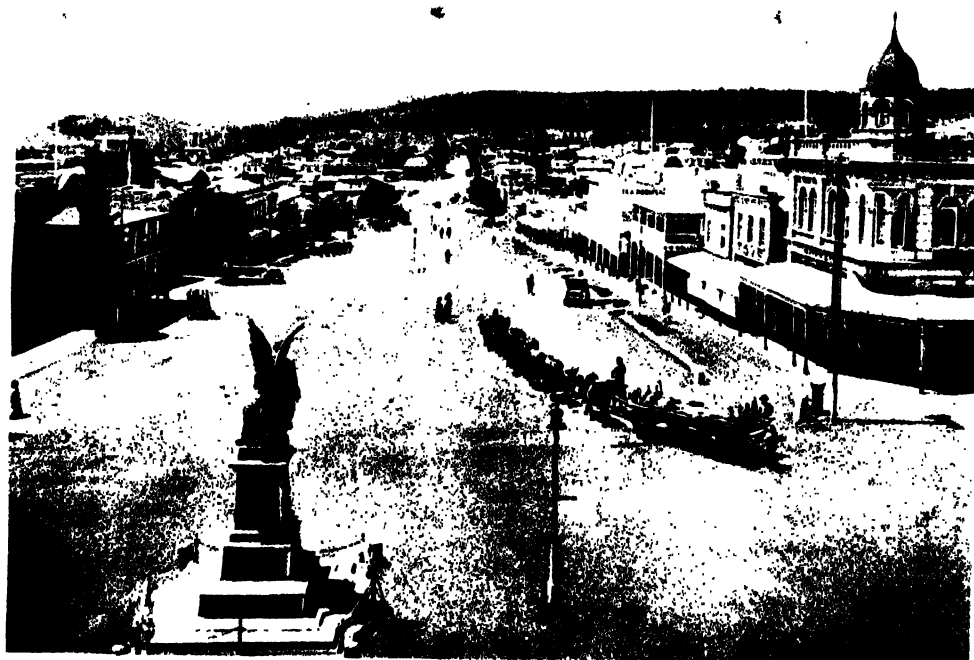
CAPE OF GOOD HOPE. *Trout swarm in the Dwars river where it skirts the Witzenberg mountains at Ceres, near the celebrated Mitchell's Pass*



CAPE OF GOOD HOPE. *Cogman's Kloof near Montagu is famous for its rock scenery with multi-coloured lichens gleaming brilliant after rain*



With its safe and sandy beach, its parks and ideal camping grounds, Humewood, a suburb of Port Elizabeth, is a growing holiday resort

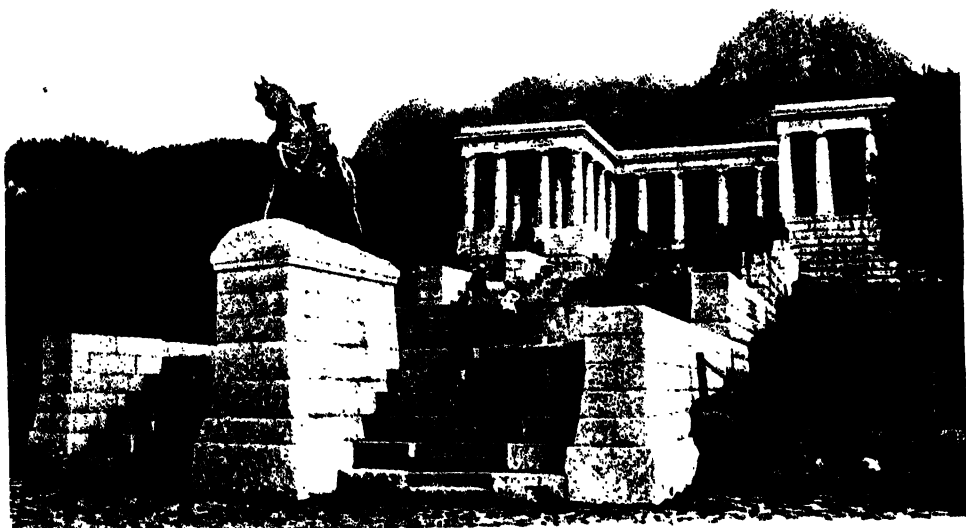


CAPE OF GOOD HOPE. Settled in 1812 and for long a centre of racial warfare, Grahamstown now is as pleasant a city as any in South Africa

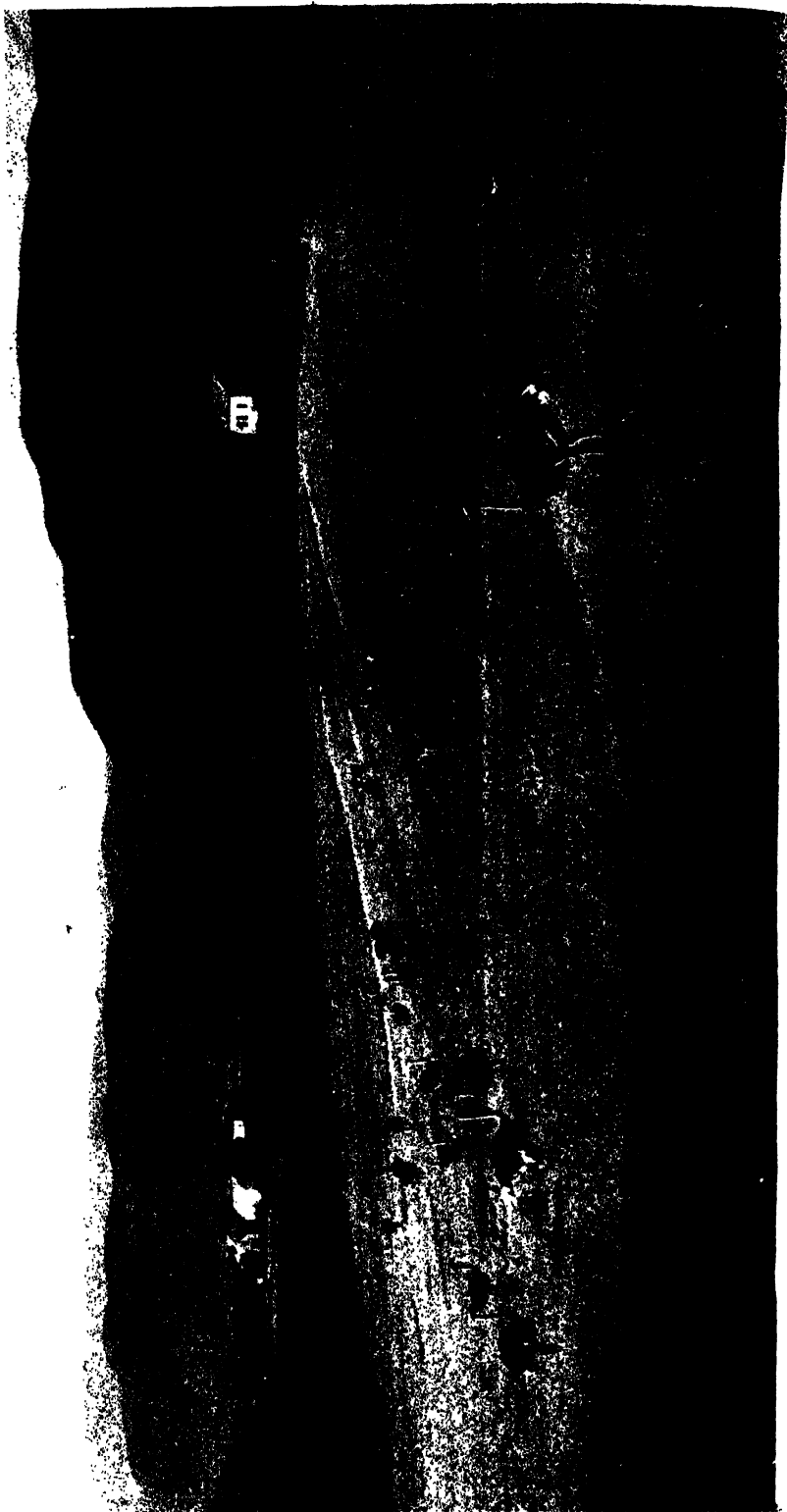
• Valentini & Sons



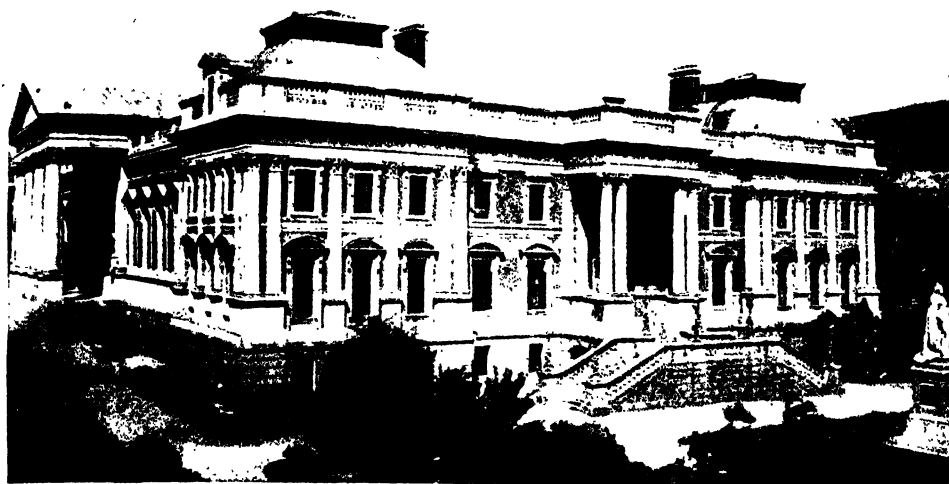
Groote Schuur, his old Dutch home at Rondebosch, was left by Cecil Rhodes in trust for the official residence of Presidents of the Union



CAPE OF GOOD HOPE. With "Physical Energy" looking out towards Rhodesia this structure is the memorial to Rhodes at Groote Schuur



CAPE OF GOOD HOPE. Ostrich farming is largely practised at Montagu. Usually the birds are bred by incubation, the chicks being kept in camps averaging 100 acres and the adult birds in ten-acre enclosures.



WHERE THE PROVINCIAL COUNCIL OF THE UNION MEETS

Cape Town's Houses of Parliament, now occupied by the Provincial Council, stand at the Adderley Street end of Government Avenue, the beautiful footwalk shaded by oak trees that forms part of the gardens laid out by Governor van der Stel. The Renaissance building of Paarl granite and red brick with handsome porticoes was erected in 1886. In the garden is a marble statue of Queen Victoria

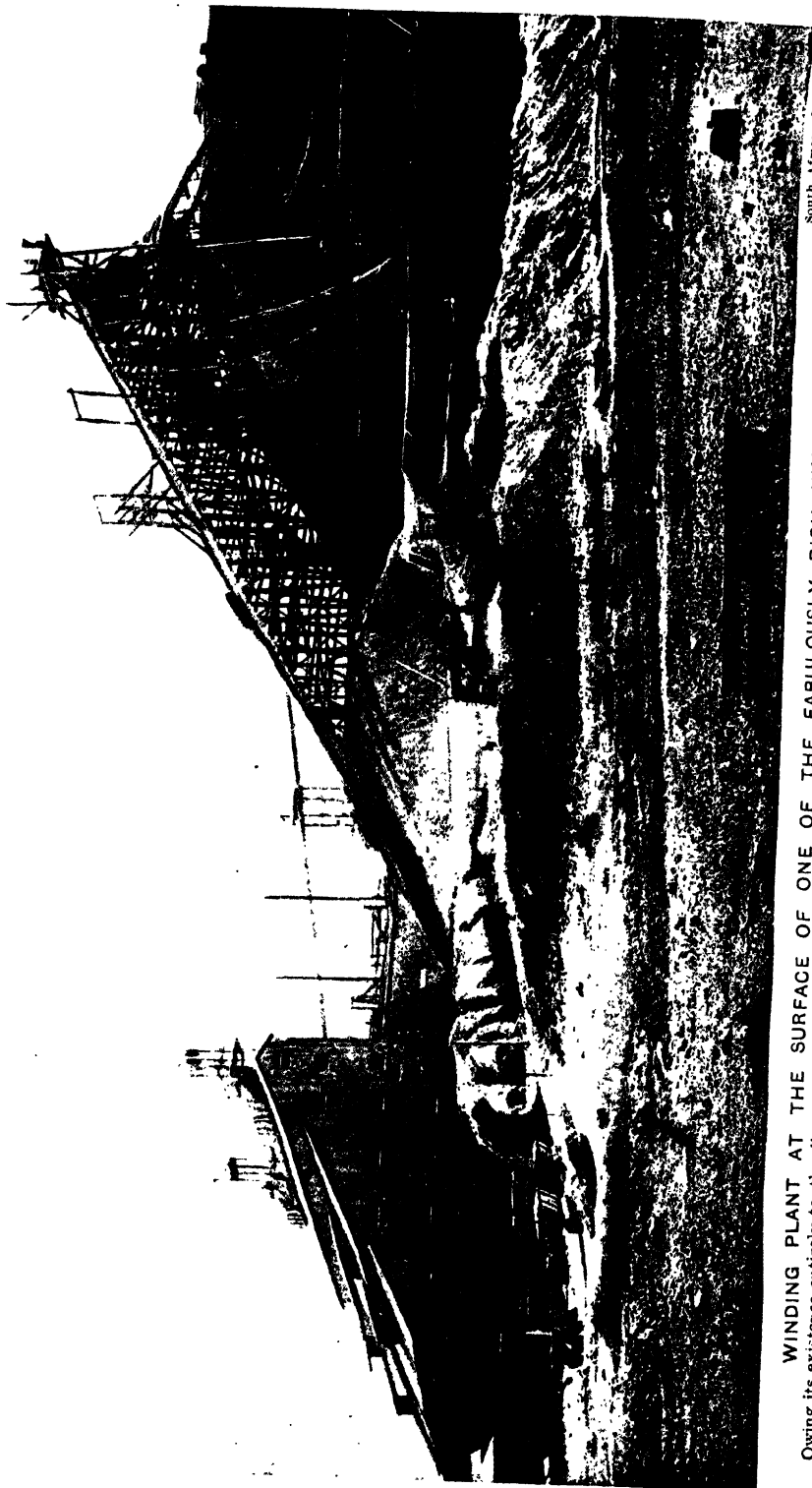
and vastly improved its plumage by careful feeding and breeding; and he has embowered himself in the vines and fruits of southern Europe.

The nature of the soil is dependent on the rocks from which it is formed, and the geology of the Cape Province, owing to its great age and the lack of fossils in the older rocks, is still a subject surrounded with uncertainty, even the geological names being local and peculiar to the system. Marine deposits are confined to the coastal regions, but fresh-water deposits may be traced over wide areas of the Karroo, which appears once to have held a great fresh-water lake. Such volcanic agencies as can be traced have long been extinct. From the mining point of view the chief problem lies in the famous diamond mines of Kimberley, consisting of several "pipes" of blue diamondiferous clay going down to an unknown depth through the surrounding shale.

This formation, which completely puzzles geologists, has been worked since about the year 1871, and these diamond mines have for many years furnished the Cape with a large part of its revenues.

Apart from considerable copper mines in Namaqualand the mineral productions of the Cape are unimportant. There are, indeed, workable second rate coal seams at one or two places, and experts believe that systematic boring would discover extensive coal formations under the Karroo. Deposits of iron have been found in Griqualand West, but it has to be admitted on the other hand that, despite extensive boring for water, nothing has been discovered of what the country needs most, a supply of mineral oil.

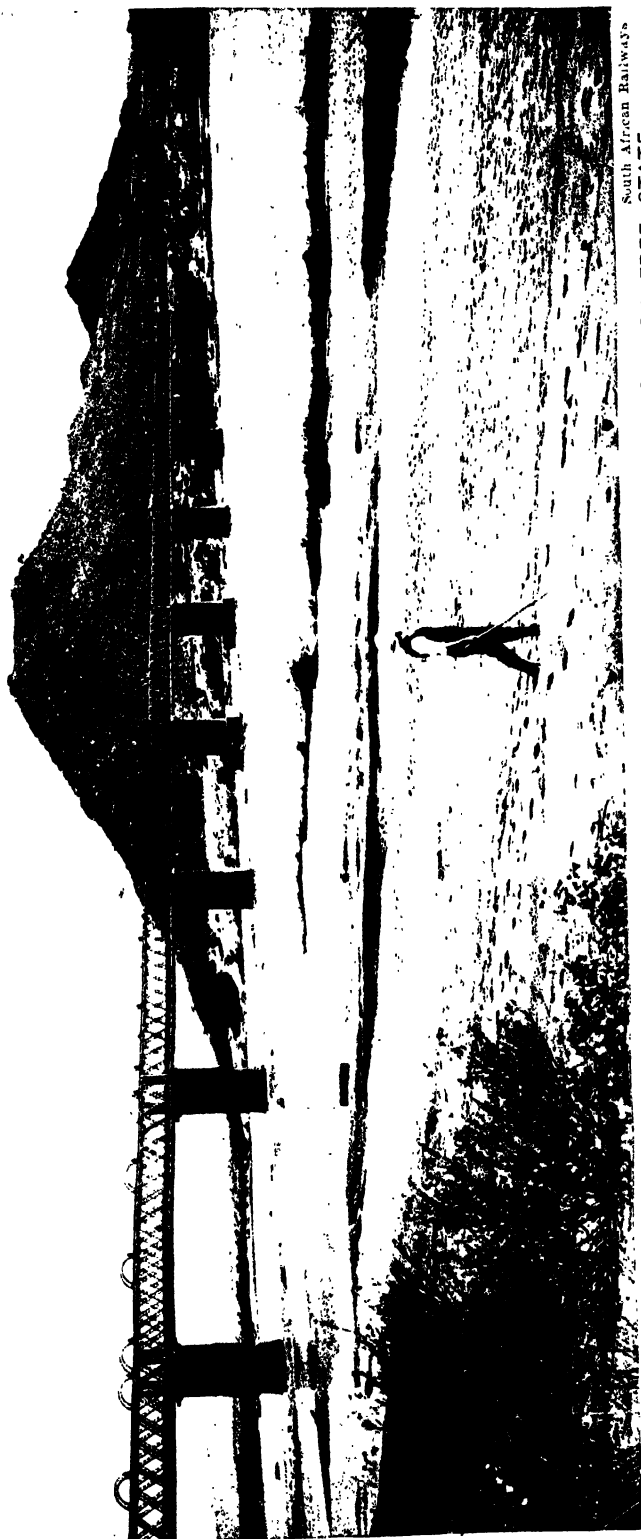
The allurements of the search for diamonds and for gold have drawn South Africans away from the more plodding pursuits of the primary industries; but these, too, are gradually being explored and developed. The seas around the Cape are rich in fish; for generations they were left to the hook and hand-line and the little boats of the Malay and coloured fishermen, but of late years the fisheries have been more scientifically worked and steam trawlers make large catches. Along the west coast crayfish are so abundant that a large export industry has sprung up. The South African settler began his



South African Railways
MINES

WINDING PLANT AT THE SURFACE OF ONE OF THE FABULOUSLY RICH KIMBERLEY DIAMOND MINES

Owing its existence entirely to the discovery of diamonds in 1870, Kimberley has developed from a rude mining camp into a handsome township differing from other South African towns only in that its streets follow the lines of the old workings instead of being built on the regular grid pattern. The town is built on a hillside, and the old workings are visible in the foreground. The town is built on a hillside, and the old workings are visible in the foreground. The town is built on a hillside, and the old workings are visible in the foreground.



South African Railways

NORVAL'S PONT BRIDGE ON THE FRONTIER BETWEEN CAPE COLONY AND THE ORANGE FREE STATE

Fifteen hundred feet in length in eleven spans this railway bridge over the Orange river at Norval's Pont marks the boundary between the Cape Colony and the Orange Free State. Hereabouts series of mountain ranges, often with flattened tops, are a feature of the country, with intervening plains of the Karroo type. Norval's Pont, on the Cape Colony side of the river, is a small town of only some 1,000 inhabitants, but it has several sporting clubs, for there is fine fishing in the river and capital shooting in the district; rheboks abound in the mountains and kloods, and springboks on the flats



Valentine & Sons

UNDER THE LEAFY ARCADE OF BIRD STREET, STELLENBOSCH

Stellenbosch is 31 miles north-east of Cape Town and ranks next to it as the oldest settlement in South Africa. It preserves in a remarkable degree the features given to it by its Dutch founder, van der Stel, in 1681. Magnificent avenues of oak trees line the streets and there are numbers of fine old houses with many paned windows and heavy thatched gables.

farming operations by barter with the natives, and the native herds of cattle, sheep and goats, although from a European point of view they seemed mean and underbred, were still of great value as a basis by reason of their drought and disease resisting qualities. He took these native herds, which were peculiarly adapted to the climate and the soil, and crossed them with the finest European stocks; he investigated the cattle diseases of the country and found that, as their host was the tick, they yielded to frequent dipping.

According to the census of agriculture for 1921 the Cape in that year possessed 2,810,003 head of cattle. The original Cape sheep was a light, somewhat leggy animal with hair instead of wool, long, lopping ears and a broad tail, principally of fat, from six to over ten pounds in weight and serving the same purpose to its owner as the hump to a camel. The Dutch East India Company introduced first Dutch and then Merino sheep, and now wool-growing is one of the principal industries of the Cape, which in 1921 owned over fourteen million woolled and over three million

other sheep, and exported in 1920-21 59,563,630 lb. The Angora goat was imported from Turkey and thrives on the natural pastures of South Africa. Ostrich farming, a thriving industry peculiar to the Cape, has been referred to already.

Thus in stock raising the Cape has a character all its own. The Cape farmer has to conserve his scanty rainfall by dams and irrigation works, and his soil by filling in the "sluits" or natural water-courses by which it is carried away. He has to fight a formidable variety of insect pests, from the tick to the locust, whose devastating swarms sometimes sweep all before them. For fodder he uses lucerne, because its roots can go down 50 feet to subsoil water. The prickly pear is dangerous to stock because of its spines, but experiment has produced a spineless variety which makes an excellent food for cattle.

Barley and oats are also cultivated, but of all cereals maize is the most important South African crop; it suits the Cape climate and soil, it forms the staple food of the natives, and its succulent stalks make excellent fodder.

In the mountain valleys of the south, vineyards, orange groves and orchards cover the lower slopes of the hills and river meadows. Certain brands of Cape wine are excellent. The fruit is always beautiful; the grapes, apricots, peaches, pears, nectarines, figs, melons and plums are equal to anything the world produces. The development of imperial preference gives a great future for this industry, which has several other factors in its favour— as, for example, a perfect climate for fruit growing— and the fact that as the seasons are the opposite of those in Europe, Cape fruit has a large sale in the winter markets of the north.

It is doubtful if the Cape will ever be a great manufacturing country; not only is it almost without coal, but its centres of population are far apart and their numbers small relatively to the distance which separates them. Some industries have long flourished owing to peculiar conditions: the Cape wagon, for example, has long been a monopoly of the country. Tobacco factories have grown with the growing cultivation of

the tobacco plant; tanneries, wool washeries and soap, candles, bacon, butter and margarine factories have followed rather slowly the development of agriculture. Bakeries and breweries flourish as they produce articles not easily imported; boot and shoe factories are being developed with South African leather; and the Cape produces its own bricks, tiles, earthenware and pottery to a considerable extent; the needs of the railway and tramway systems in the way of repairs and electrical power must be provided locally, and employ a large number of skilled workmen. The Cape largely depends on the importation of manufactured goods in exchange for its diamonds, wool, mohair, hides and ostrich feathers.

Taking the industries as a whole, there are 38 per cent. of Europeans employed against 62 per cent. of other races, and the white workman earns an average annual wage approximately four times greater than that of the non-European worker.



South African Railways

OXFORD STREET, EAST LONDON'S PRINCIPAL THOROUGHFARE

East London, at the mouth of the Buffalo river, is the premier wool port of the Union and an increasingly popular seaside resort, possessing as it does a healthy climate and particularly beautiful natural surroundings. This view is along Oxford Street, with the tower of the city hall rising over the hotel on the right and the South African War memorial in front of it.

In trade the small shops are largely run by Jews and European races. The better class of shops in the larger towns are still chiefly in British hands; the professions like law, medicine and the civil service are divided between the British and Dutch; the fact that the government and education are now largely bilingual and that the government is generally in Dutch hands has given a decided advantage to the latter race; but in engineering, metallurgy and the higher branches of industry and trade the British hold their own.

The governing considerations in South African communications are mileage and gradient. When the diamond mines were discovered in Griqualand West the railway from Cape Town had to cover a distance of close on 650 miles and rise to a height of 4,000 feet; it had to ascend wild mountain passes and traverse the vast and empty regions of Karroo to reach the one centre from which a remunerative traffic could be anticipated. When the gold-fields on the Rand were discovered, the three ports of Cape Colony, Cape Town, Port Elizabeth and East London became competitors for the trade of the Transvaal.

Thus the railway system of the Cape Colony is competitive rather than concentric in its general outline. The roads

suffer from the same disadvantage as the railways; in the old days the Cape wagon pursued its leisurely and independent course almost oblivious to considerations of time and space; now the motor-car has to negotiate river courses and sandy tracks. At present the external trade of the Cape is served by steamship communication.

Such, then, are the general characteristics of the Cape. If we turn to its social life we find the towns widely separated in interests and in distance. Cape Town, Port Elizabeth and East London are rivals for the trade of the interior. Kimberley is a mining community, far from all these seaports and opposed to them in sentiment and interest. Country towns like the Paarl, Stellenbosch, Grahamstown, King William's Town and Uitenhage are markets for the surrounding farms and centres of social, religious and educational life. Both in town and country the people live much in the open air; on the great farms into which the country is divided houses are simple and primitive. In some parts of the country, particularly in the eastern province, the British farmer has introduced a higher standard in both living and agriculture; and the spread of education, which often reaches a high standard, is doing great things for the progress of the people.

CAPE OF GOOD HOPE: GEOGRAPHICAL SUMMARY

Natural Divisions. Southern portion of the plateau of Southern Africa, with a scarp face rising in terraces from the ocean. Cf. other relics of Gondwanaland in the Deccan plateau and the plateau of Western Australia. Drainage (i) to the Orange across the plateau, (ii) by coastal streams in the terraces, the Great and Little Karroo.

Climate. North-west, arid Kalahari. Cf. Sahara. South-west, winter rains round Cape Town. Cf. Morocco and South-west Australia. East, summer rains, with large precipitation on the coast. Cf. New South Wales, Florida.

Vegetation. Scrub and bulbous plants in the arid area. Cf. Mallee in Australia. Forests of native trees in small patches and of imported Australian and New Zealand trees in increasing number in the rainier regions. Cf. Eastern Australia.

Products. Mealies (maize), the native

grain. Wheat, specially in the winter rain region, which produces Mediterranean fruits - i.e. grapes, peaches and other stone fruits, figs, and has wine and jam to sell. Lucerne is a typical Mediterranean region fodder crop. Sheep, goats, ostriches and cattle are reared; recent attention to dipping has improved the pastoral farming. Diamonds at Kimberley, still the main world source. Copper in the north-west.

Communications. Cape to Cairo route from Cape Town north. Other routes from East London and Port Elizabeth. De Aar, the great railway junction on the Veld. Cape Town, one of the great nodal points in the world's sea traffic.

Outlook. With an assured water supply the Cape of Good Hope should become one of the great farming areas of the world where Britons and Cape Dutch can work out a successful common future.

CAUCASIA

Athwart its Mighty Mountain Chain

by Henry W. Nevinson

Author of "The Dawn in Russia"

COMING southward from Rostov on the Don, one continues for a time to pass across a region of Cossack steppes having the same general character as the steppes farther north. But all this district, which is not only pasturage but forms one of the chief granaries of Russia, is still included under the general name of Caucasia as it was in the time of the Tsars. It is divided into the two territories of Kuban, named after the river which rises in the Elbruz range and flows out westward into the Black Sea nearly opposite Kerch; and the Stavropol territory named after its chief town and watered by the Kuma in the centre and the Terek in the south rising in the main Elbruz range and running east into the Caspian.

As one advances, one sees in front the superb range of the Caucasus mountains which throughout their whole course of about 900 miles from Novo Rossisk, near Kerch on the Black Sea, to Baku on the Caspian maintain an elevation of about 10,000 feet with very few breaks. Frequently they rise to 15,000 feet, in several cases to 16,000, and the highest peak of Elbruz reaches 18,526 feet, while Kazbek, the most prominent peak of the central range, is nearly 17,000 feet high. The snow-line stands at 9,000 feet, or rather lower on the northern side of the main range.

Georgian Road through Caucasus

The range is divided into two parallel ranges with a very high valley between, but the depression is crossed by numerous spurs or bridges of mountain. The highest points of the Caucasus show clear evidences of volcanic origin and small eruptions have occurred within

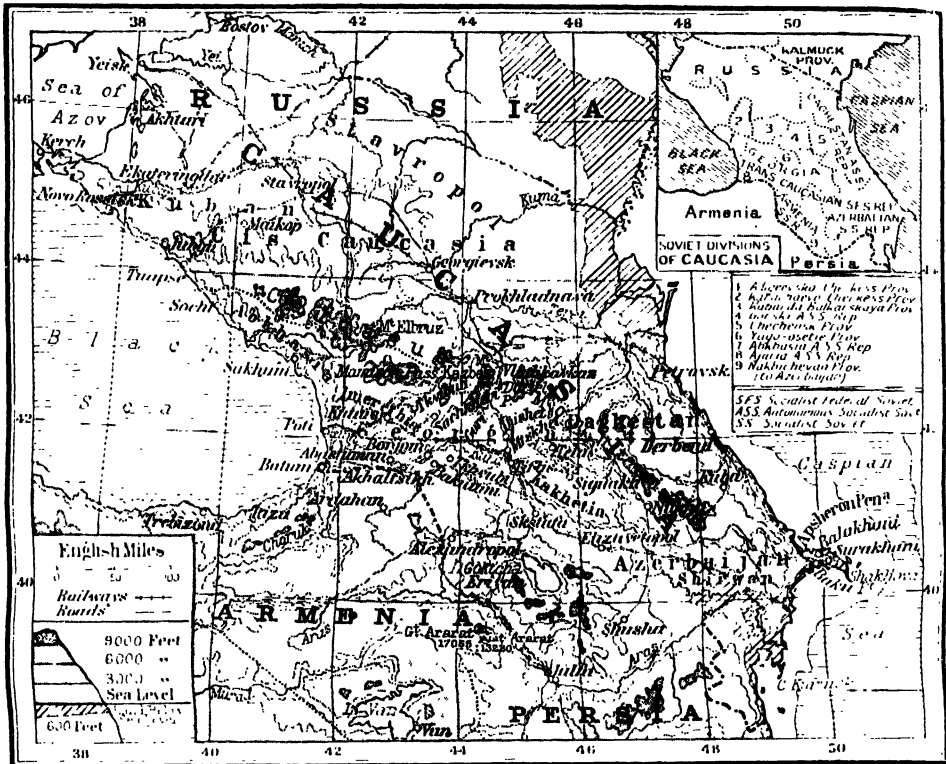
recent times. Glaciers are very numerous throughout the range.

The lofty barrier is so continuous that the passes are few and run at a high elevation, making the roads almost impassable in winter. The chief pass is the great military road built in the sixties of the nineteenth century from Vladikavkaz on the north side of the central chain to Tiflis. It is called the Darial Pass or the Georgian Road, and is certainly one of the most beautiful roads in the world.

Mountain Home of the Lesghians

There is only one other main pass, but it is far more difficult owing to its great elevation; it runs from Vladikavkaz to Kutais and is called the Mamison Pass or the Ossetic Road, the summit of the pass being at an altitude of considerably over 9,000 feet. The remaining passes being little more than mule tracks can only be crossed on mule or on foot, and that only for a short time in summer. The range runs south-east towards the Caspian and about two-thirds down its length it expands into a broad mass of mountains containing, or rather forming, the wild district called Daghestan, the home of the Moslem Lesghians, an untamed people noted for their skill in metal work, especially the manufacture of the ornamented daggers and belts which are a feature of Caucasian art.

The railway from Russia proper, unable to penetrate the mountain range, proceeds south-east across the steppes to the shore of the Caspian, which it follows as far as the great oil district of Baku, passing through a region rich in produce of fruit and vegetables as well as wheat. The new and old towns of



TOWNS AND RANGES OF CAUCASIA BETWEEN TWO SEAS

Baku stand upon one of the largest oil deposits of the world. From ancient times the Caucasus has been known as the land of fire, and perhaps the myth of Prometheus, who brought fire down to man and as a penalty was chained by order of Zeus to a precipice in the Caucasus, may be dimly connected with the burning of oil. Until quite lately the flames that flickered over a small outcrop of oil at Sourakhani, about 12 miles inland from Baku, were the object of worship to pilgrims from all round the Caspian and far into Persia.

The largest oil-field in the Baku district lies north of the city at Balakhani, but there is a smaller but rich field near the coast, a mile or two south of the city. Refining is done in the "Black Town," but the whole district smokes and steams, being almost covered with the derricks or sheds built over the oil shafts and constructed of gypsum planks or sheet-iron, so as to

resist the action of fire. Under each derrick a machine pump drops a narrow tube or "bucket" 35 feet long down the casing of the well, into which it just fits. The bucket brings up "crude oil," usually mixed with water, and pours it as a brownish, yellowish liquid into reservoirs, whence it is carried in pipes to the refineries. In some wells the water can be excluded, the oil and water being forced through separate pipes by compressed air.

The oil lies in the strata of the sand, rock and loam at a depth of 700 to 1,000 feet, and has a temperature of about 75° F. Its origin is variously explained as being coal in another form, rock fused by volcanoes, or the refuse of immense shoals of shellfish. A good well will yield as much as 288,000 lb. weight in twenty-four hours. In 1901 there was an exceptional produce of 24,241,000,000 lb. from the district, but the average before the Great War was 18,000,000,000 lb. a year. The produce

for the last three months of 1923 was 63,573,000 poods, or an average of about 21,000,000 poods a month. Prior to 1914 the monthly average was reckoned at double that amount. A thousand poods equal sixteen tons, so that about 36 lb. go to the pood. The "Mineral Journal" for June, 1923, stated that the commissars at Baku reported that lack of funds was retarding the work, and that the Persian pumpmen especially were leaving for want of wages.

A spout of oil, or "fountain," is not frequent, and is never desired, because it breaks up the machinery, floods all the works with sand and carries off so much oil to waste. "Crude oil" is used for locomotives, but most of it is refined into benzine, petrol and kerosene, the refuse, or "mazout," being consumed for common fuel and furnaces. But even in the refuse ponds women and girls wade about, skimming off the surface oil with rags which they squeeze into buckets for family warmth, lighting and cooking. The pipe run by the

Rothschilds to carry oil from Baku to the oil ships on the Black Sea at Batum used to be tapped by the ingenious villagers at various points along the route, with the same domestic objects. But since the Great War the pipe has fallen into disuse.

The managers in the oil-fields, who before the Great War were British, are chiefly Russian and Armenian. The work-people are chiefly Tartar and partly Armenian, with a sprinkling of Russian. Before the War the feuds between Tartars and Armenians were often violent, leading to many deaths on both sides. Since the revolution of 1918 Baku has been declared the capital of the Tartar State known as the Soviet Republic of Azerbaijan.

Apart from the oil, the products of the region are scanty. There are fisheries on the Caspian, especially of caviare south of Baku and about the mouth of the Kura; and there is a trade in wool and hides from the sheep fed on the sparse pasture of the desert districts of Elizavetopol and Shirwan, which



MOUNT KAZBEK, THE CAUCASIAN PEAK OF LEGENDARY FAME

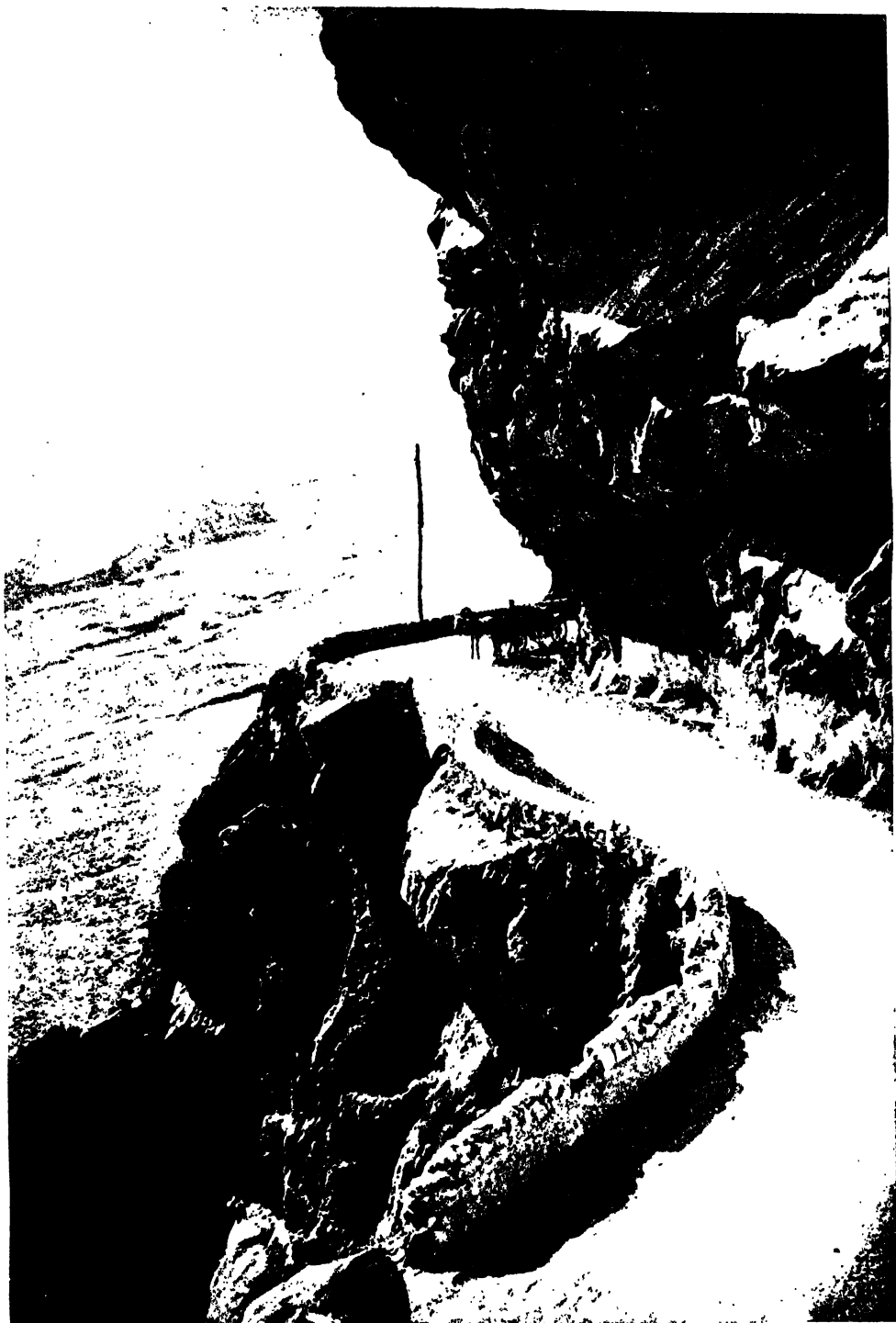
The Caucasus is the grand mountain system extending between the Black and the Caspian seas; the two highest peaks of the chain are Mount Elbruz, 18,526 feet, and Mount Kazbek, 16,550 feet. The latter, rising east of the Dariel pass in the Central Caucasus, is an extinct volcano of curious conical form on whose stupendous declivity heathen mythology chained the daring Prometheus



H. W. Nevins

ANCIENT WATCH TOWER ON THE GEORGIAN ROAD

This time-worn fortress rears its head near the military road which connects Tiflis and Vladikavkaz. All around lies a vast bowl-shaped circle of mountains, with Kazbek, dimly seen to the right, rising with abrupt declivities from a deep valley. The Caucasian mountains contain many glaciers, rivalling those of the Alps, and several passes, some of which reach an elevation of 10,000 to 11,000 feet.



H. W. Nevins

ON THE GREAT HIGHWAY THROUGH THE CAUCASIAN MOUNTAINS

Between the cities of Vladikavkaz and Tiflis runs a great military road far-famed as a remarkable feat of engineering skill. At certain parts the beauty of this way is indescribable; towering rocks, awe-striking in their solemn grandeur, line the narrow zigzag road, from which dangerous precipices are separated only by a low wall or by posts placed at short intervals.

border the frontiers of the so-called Soviet Republic of Armenia, with its capital at Erivan. This part of Armenia was formerly included in the Russian Province of Caucasia, but may now be treated in conjunction with the rest of Armenian territory. Caucasia will thus be limited to the two districts of Azerbaijan and Georgia, which latter is reached from Baku by the railway through Elizavetopol to the Georgian capital of Tiflis.

Georgia has claimed to be a separate and independent republic since the revolution of May, 1918. The claim was recognized by the Supreme Council of Allies in January, 1920, and by the Council of Allied Ambassadors in January, 1921, as well as by the Soviet Russian Government in May, 1920. Nevertheless, in February, 1921, Georgia was invaded by a large Russian army, and has since been regarded by Russia as one of the Soviet Republics under Russian rule. In dealing with its

geography and produce it is necessary to remember the political position which has greatly influenced both. According to the frontiers now recognized, Georgia proper is included within a line drawn from a point on the Black Sea just south of Tuapse, along the summits of the Caucasus range, over the two peaks of Elbruz and Kazbek, to a point about half-way down the mountain barrier of Daghestan. The line then turns south-east till it reaches the Kura river on its way from Tiflis to the Caspian. It then follows the right or south bank of the Kura westward, and leaving it below Tiflis runs almost due west, crosses the Tiflis-Erivan railway, excludes Alexandropol, the junction for Kars, but includes Akhalkalaki and Ardahan, and so reaches the coast of the Black Sea just west of Riza and about 30 miles east of Trebizond.

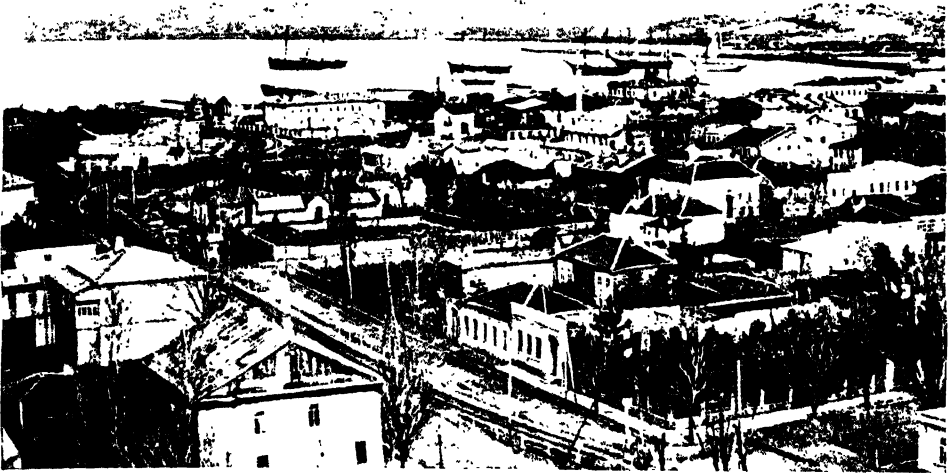
The natural frontiers, therefore, are the Black Sea on the west, affording an



VENERABLE CAPITAL OF GEORGIA IN THE VALLEY OF THE KURA

H. W. NEVINSON

Mtskheta lies about 10 miles north-west of Tiflis at the confluence of the Aragva and the Kura. The erstwhile capital of Georgia, it is now but a poor village, the only remnant of its former pride being the ancient cathedral, the burial-place of several Georgian princes, which contains many valuable books. Ruins of the old royal residence still stand on the hill opposite the town.



TOWN AND HARBOUR OF BATUMI ON THE BLACK SEA

One of the most important trading towns on the south-east coast of the Black Sea is Batumi, a thriving seaport in Transcaucasia in the province of Batumi. It has a good harbour and extensive export trade, its importance being due to the transport of petroleum and other naphtha products from Baku on the Caspian Sea, with which it is connected by the Transcaucasian railway.

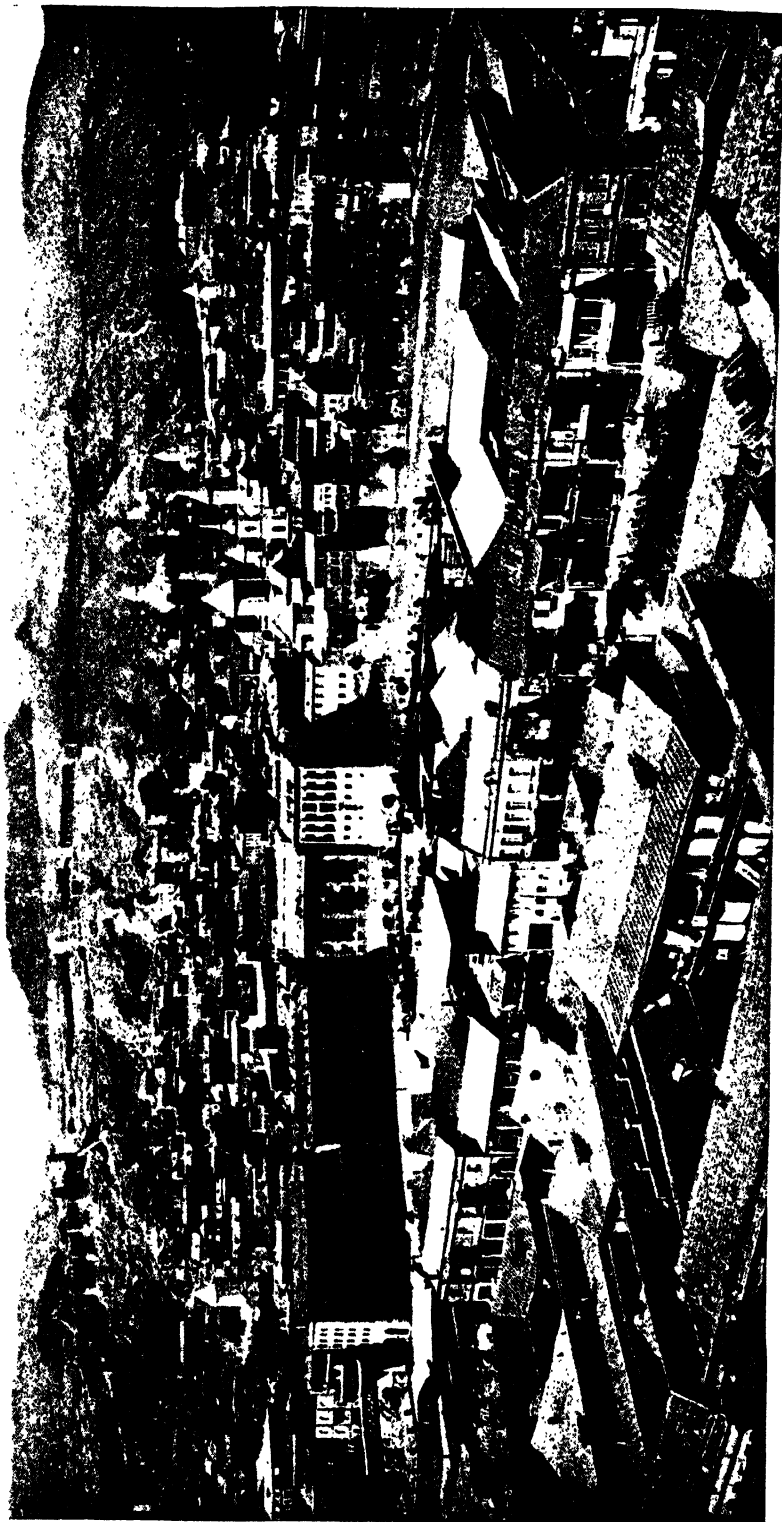
open gate to Europe, the Caucasus on the north, the Tartar deserts on the east and the Anti-Caucasus on the south. About 90 per cent. of the total population, roughly 3,500,000, included within these limits, are of the ancient Georgian race, the remainder being Armenians, Tartars, Persians, Russians and a few German colonists who settled early in the nineteenth century.

The whole country is one of singular beauty and fertility; the finest mountain range in Europe is everywhere within sight and whether to north or south of the main valley the varied elevation gives a variety of climate rendering almost every kind of cultivation possible. About half-way between the Black Sea and the Caspian a low watershed divides the two streams of the Rion (the Phasis of early Greek history) running into the Black Sea westward, and the Kura running eastward through Azerbaijan into the Caspian.

Both these rivers have many tributaries, coming down from the snow-covered mountains through valleys of

exquisite beauty, such as the Alaksan valley and the Aragva. The soil in both river basins is readily cultivated. Owing to the protection of the Caucasus range, the climate is warm and in most places healthy—something like the climate of southern Italy. Especially in the Rion valley, there is plenty of rainfall and at Batumi it is unusually heavy for a southern latitude. The Black Sea coast from Riza to Tuapse is singularly beautiful, the mountains coming down to the shore and the climate allowing the growth of palms, orange and lemon trees, cork trees and bamboos. In Tiflis the winters are sharp and clear, but the cold is never severe.

The soil in the valleys is of that richest kind given by the washings from granite or volcanic mountains. Throughout the whole country the vegetation is exceptionally abundant, owing to the sunshine and moisture. Forests of oak, beech, chestnut and boxwood flourish up to the height of 4,000 feet, and rhododendrons grow abundantly up to 9,400 feet. Wolves and bears are



Georg Haeckel

GENERAL VIEW OF TIFLIS, CHIEF COMMERCIAL CITY OF CAUCASIA, ON THE HIGHWAY FROM RUSSIA TO PERSIA

Tiflis, the capital of Georgia and of the province of the same name, is a city of considerable importance and extends for a distance of some seven miles along the banks of the Rioni river, which flows into the Black Sea. It is the chief commercial centre of the Caucasus, and is the terminus of the Trans-Caspian railway, which connects it with the Persian Gulf. The city is situated on a steep bank, and is surrounded by high mountains. The climate is generally healthy, but the summer months are very hot. The population is about 100,000. The city is the chief commercial centre of the Caucasus, and is the terminus of the Trans-Caspian railway, which connects it with the Persian Gulf. The city is situated on a steep bank, and is surrounded by high mountains. The climate is generally healthy, but the summer months are very hot. The population is about 100,000.

requent in the mountains and forests. The wild ibex, called the "tur," still occurs, and so does a wild buffalo. Antelopes, large deer and wild boar are common. The streams are full of trout and about 400 species of birds have been classified.

Owing to the richness of the soil and the plentiful supply of water distributed

much sought after by bears. Under cultivation it produces large quantities of wine, especially in the Alaksan valley, where in autumn the whole country seems to run with it. The grapes are squeezed in primitive presses, cleaned with boughs of yew, and the juice is run off into huge earthenware vats sunk in the ground and big enough to hold a



THOROUGHFARE OF TIFLIS, IN THE EASTERN PART OF THE TOWN

The dwelling houses of Georgia's capital city are of primitive architectural styles; nearly all of them are adorned with balconies, and on the sloping streets are built one above the other like the steps of a staircase, while the streets are steep and usually so narrow that two carriage wheels can barely pass each other. The population, numbering approximately 350,000, is almost entirely metropolitan.

by a very ancient system of irrigation that still works well, the cultivation is easy both for gardens and fields. Apples, pears, peaches, apricots, almonds, oranges and lemons all ripen. Mulberry trees are also much cultivated for silkworms, and the tea plant has been introduced into the State Domain of the Batum Province. Nearly all the peasants in the lower valleys and along the Rion grow maize, which is indeed the staple food of the western provinces. As in most parts of the Near and Middle East and India, the black buffalo is chiefly used for ploughing and draught, though oxen and horses are also used.

Next to maize, perhaps the chief object of cultivation is the vine. It grows wild in the mountains and is

man; for when fermentation is finished and the wine drawn off, a man gets into the vat to clean it out.

The wine is usually poured into tarred buffalo skins which are laid upon narrow wooden carts and driven slowly along the mountain roads, joggling as they go. In 1913, Georgia produced 32,000,000 gallons of wine about one-third of which was exported to Russia, much of the remainder being sent to France to serve as "body" for "Burgundy" and "Bordeaux."

Owing to the formation of the great mountain ranges, various valuable minerals occur and might be worked with advantage. The most valuable of all, and hitherto the most worked, is manganese, which abounds in the district

around Sachkheri in the north-west of Georgia, round the ancient city of Kutais. For quality this manganese ranks high and has been largely exported to Germany, Great Britain, France and the United States. Mineral springs are very numerous, containing sulphur, iron and radium. The best known are at Borjom, Abastuman and Tiflis.

In spite of this potential wealth in minerals, the main occupation of the Georgians is agriculture of various kinds. The cultivation is chiefly devoted to the vine, maize, wheat in Central and Eastern Georgia, barley, cotton, tobacco of an excellent quality, tea and rice. A good deal of raw silk is produced, and indeed silk is one of the oldest industries. There was a considerable export of wool and hides also before the Great War and fishing-boats ply in the Black Sea south of Batum.

The chief exports therefore, at all events before the Russian aggression in

1921, were manganese ore from the port of Poti, wool, silk cocoons, tobacco, cotton seeds, walnut, boxwoods and carpets. In return bricks and tiles, tinplate, sulphate of copper, machinery, chemicals, silkworm eggs, hardware, cement and tea were imported.

As is often the case in the Near and Middle East, the inhabitants are far more eager about education than the majority of people in the West, probably because the difficulties in securing it have been greater. At least 80 per cent. of the population are literate, and before the Soviet occupation there was a good public Press.

All the chief towns are connected by roads. The chief railway runs from the Black Sea ports of Batum and Poti to Tiflis, and thence into the Azerbaijan province to Baku. There is also a railway from Tiflis into Persia by way of Alexandropol and Eriwan; and another from Tiflis north-east into



SPACIOUS QUAYS OF BAKU, A PROGRESSIVE CITY OF CAUCASIA

Baku, the port on the Caspian Sea and chief town of the province of Azerbaijan, lies on the south coast of the Apsheron Peninsula. Its fine natural harbour, used before and during the Great War as a naval station, is lined with wide and solid quays, and is usually teeming with shipping for the port is the commercial centre for merchandise despatched from the Transcaspien provinces and Persia



H. W. Newinson

ON ONE OF THE LOCAL OIL-FIELDS OF BAKU

In the seventies Baku was a village with some 1,500 inhabitants; fifty years later its population was estimated at nearly 300,000. This increase is due to the famous oil fields in the neighbourhood, where a forest of derricks, or wooden towers within which is housed the machinery for raising the naphtha, marks the wells which produce an enormous quantity of crude petroleum.

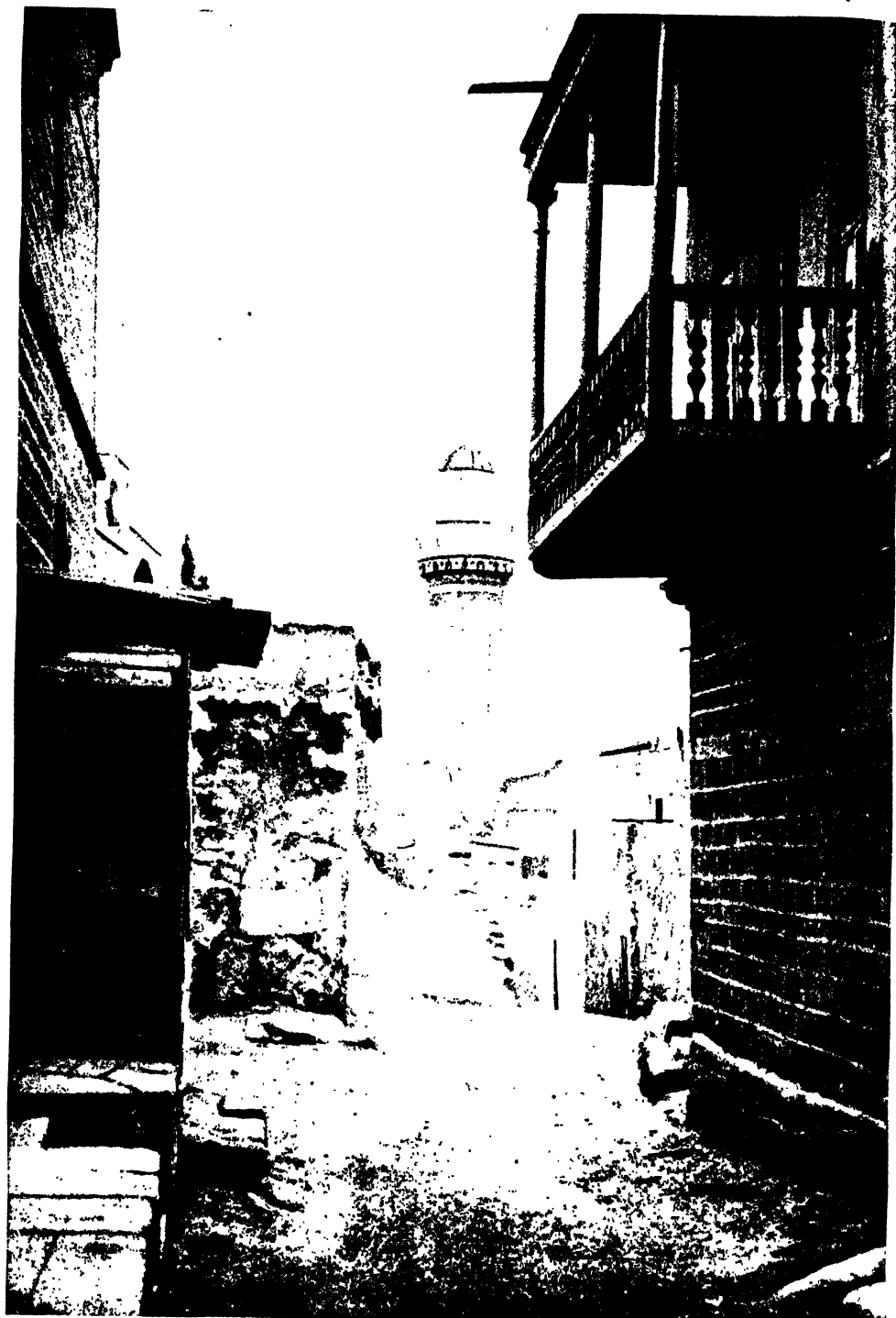
Kakhetia and the Alaksan valley. From the main line a narrow gauge branch leads to Sachkheri.

Belgian companies have constructed electric tramways in Tiflis, Kutais and Batumi, the rapid rivers supplying great electric power without difficulty. The chief towns are also connected by telegraph and telephone, and the Georgian Government established "wireless" during the interval of freedom, 1918-1921. The Indo-European telegraph line runs through Tiflis. The land is chiefly held by small peasant proprietors since the "nobility" were expropriated during the revolution. But the prosperity of the peasant was much reduced by the Bolshevik invasions owing to requisitions and exactions in kind. Otherwise the peasants are well disposed to cooperation. Nearly 1,000 cooperative societies exist, including about one-third of the population. The International Cooperative Alliance recognizes the Georgian Society as an independent member.

The peasants' houses are usually surrounded by a garden or open yard and a large covered balcony upon which all housework is carried on during the summer is very characteristic of the buildings. Nearly every village has a school, cooperative store and church, the Georgian type of church architecture in general following Byzantine lines but with very distinctive features, especially in the pointed cones roofing the towers.

The towns have electric light, water supply and telephones and a fair system of drainage. In the country the sanitation is of course primitive, but still the villages are healthy except in the low-lying districts of the Alaksan valley, the country round Poti and parts of Imerethia, where malaria prevails.

Tiflis, the capital, stands on the river Kura and has a population of 400,000 souls. It is indeed the centre, not only of Georgia but of all Caucasia and north Persia—the point where East and West and North have met. The city has been many times captured by the Arabs,



H. W. Nevins

CRUMBLING WALLS IN A CORNER OF THE OLD TOWN OF BAKU

In Baku numerous relics of the past are to be found, for this coastal town has seen many vicissitudes and it was not until the beginning of the nineteenth century that it passed from Persia into the hands of Russia. Modern buildings give quite a European aspect to the port, but in the older portion of the town gloomy dwellings and tapering minarets vividly display Moslem influence

Mongols, Turks and Persians, but it has hitherto always been retaken by the Georgians. The cathedral dates from the eighth century but was rebuilt in the sixteenth. An old Persian fortress overlooks the city.

The other chief towns are Kutais (80,000 inhabitants), a beautiful city looking over the Rion valley and containing an eighth century cathedral; Batum (50,000), the main port of the Black Sea; Poti (30,000), also on the Black Sea and formerly the port for shipping the manganese; and Sukhum (20,000), Gori, Akhaltsikh (30,000), Telav, Signakh, Dushet, all between 10,000 and 12,000. Mtskheta was the ancient capital of Georgia, containing the oldest cathedral dating from the fifth century and rebuilt in the sixteenth. There is here also an ancient bridge dating from Roman times.

The Georgian people have always been famous as a particularly fine race, being indeed the best bred examples of

those "Caucasians," which the geographers and anthropologists have taken as the very type of white mankind. The beauty of Georgian women has for ages led to their capture and enslavement in Turkish and Persian harems. During the period of Persian domination in the Middle Ages every Persian nobleman endeavoured to secure a Georgian wife. In the interesting chapter in John Ogilby's "Asia" written in 1673, where the "Country of Georgia" is described he says: "The women are very courteous, civil, modest and the best-featured in all Asia; both men and women are tall and slender, having generally brown hair, full black eyes, white and ruddy complexions, occasioned perhaps by the abundance of wine which they drink." Further on he writes: "None of the Persian nobility but covet to marry with a Georgian rather than their own country women, because they are generally more beautiful and well-limbed."

CAUCASIA: GEOGRAPHICAL SUMMARY

Natural Division. An upfolded mountain region with its northern and southern slopes. The Caucasus Mountains belong to the Alpine-Himalayan young mountain system of Eurasia. In the main they comprise mesozoic limestones, with gentle folds similar to the Jura Mountains.

Location. The region lies between the Manich depression and the mountain knot of Armenia, the corner of Asia Minor. The Manich depression between the Caspian and the Sea of Azov is, by some, held to be the geographical boundary of Europe; in this case, Caucasia is part of Asia. Other geographers consider that Europe ends at the mountainous water-parting, in which case the old Russian division of Cis-Caucasia is in Europe, and Georgia, Azerbaijan, with the remainder of Trans-Caucasia, are in Asia. The north boundary of the region lies along the Manich depression; the south boundary, however, ignores the canyon-like gulleys of the rivers Rion and Kura, and reaches on to the plateau of Asia Minor to the Aras river.

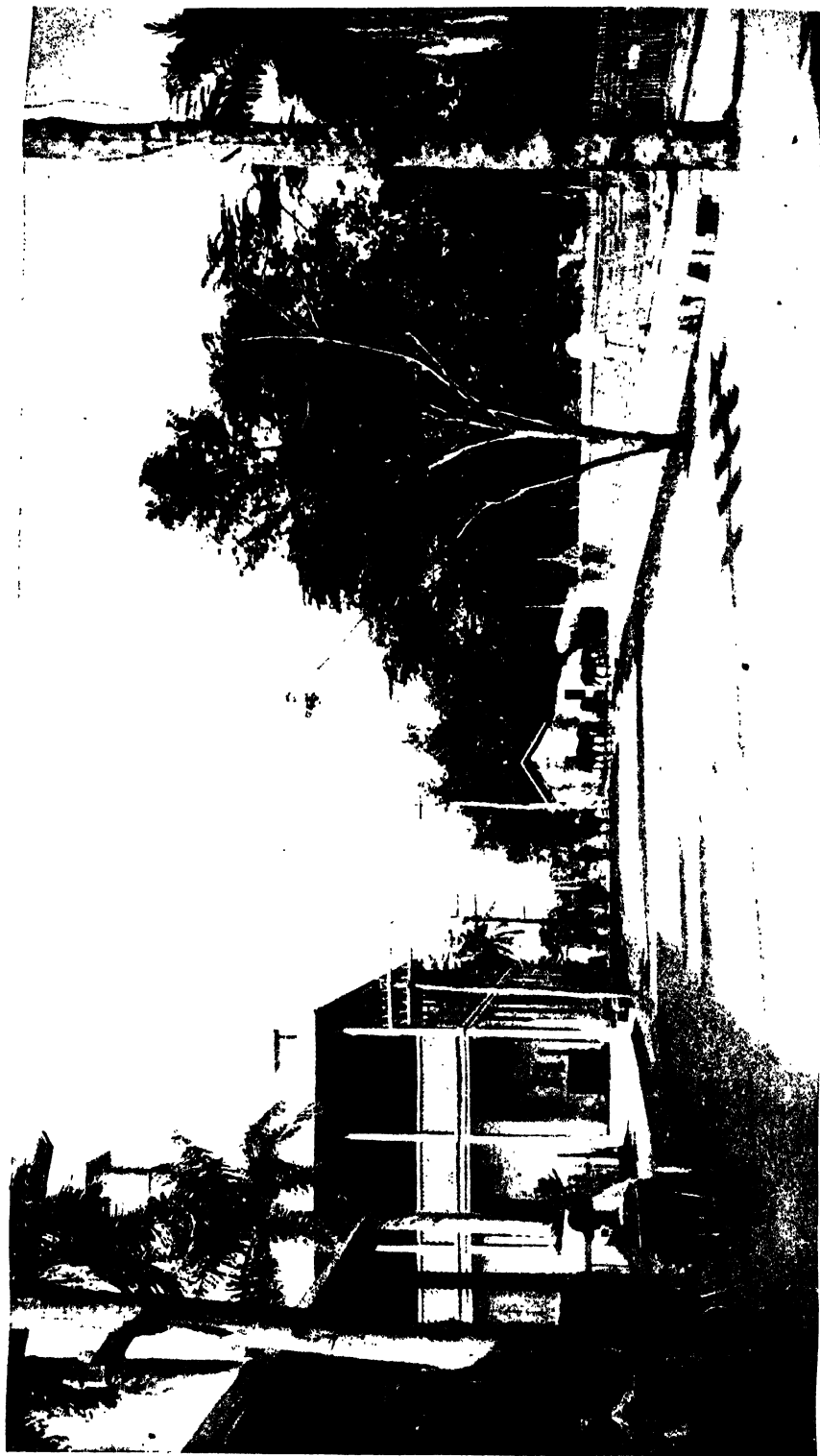
Political Divisions. What is briefly summarised by the word Russia comprises a Union of Socialist Soviet Republics, and includes four Socialist Soviet Republics, of which the smallest is the Trans-Caucasian S.F.S. Republic, now gradually being centralised on its capital, Tiflis.

R.S.F.S.R.—i.e., the Russian Socialist Federal Soviet Republic—is the largest of these four republics, and includes the Daghestan and Gorski A.S.S. Republics, as well as the autonomous provinces of Kabarda-Balkarskaya, Cherkess, Adigeevsko-Cherkess, and Karachaevo-Cherkess. Cis-Caucasia is part of the R.S.F.S.R., and failed to attain even the short lived independence of Georgia and Azerbaijan after the Great War.

Climate and Vegetation. Northern slopes, inclement in climate. Mountains, heavy snowfall in winter, harsh climate in general. Southern slopes, with a sunny aspect, Mediterranean Riviera climate, especially on shores of Black Sea. Lower slopes forested with oak and beech, and with pine on the higher ground.

Products. Cotton and tobacco are grown in selected parts of Trans-Caucasia. The oil wells of Baku are celebrated, and should be compared with those of Galicia and Rumania, similarly placed on the outer flank of mountains belonging to the Alpine system.

Outlook. Typically a transitional frontier area, with a congeries of distinct peoples, Caucasia has but a troubled future in relation to the Slav domination of the Great Russians. The Soviet Constitution seems to be a sign of subjection which may only be temporary.



J. E. Bellows

BY THE PUBLIC GARDENS AT SAN PEDRO SULA, COMMERCIAL CAPITAL OF HONDURAS

According to Honduran reckoning San Pedro Sula, with its 8,000 inhabitants, is a large town. Situated on the National Railway of Honduras, it has become the principal trading center in the north, and is one of the most important cities of the country. It is located about 100 miles from Tegucigalpa, the capital of Honduras, and is the seat of the government. The city is one of the most important in the country, and is the center of the commerce of the valley.

CENTRAL AMERICA

Lovely Belt 'twixt Atlantic & Pacific

by Lilian E. Elliott

Author of "Brazil To-day and To-morrow"

IN southern Mexico, at the base of the great continent of North America, the land is compressed to a narrow neck called the Isthmus of Tehuantepec; southward, below the two eastward-jutting promontories of Yucatan and Honduras, there is another contraction, the fifty-mile-wide isthmus of Panamá. Between these two slender isthmian belts lies Central America, land of unforgettable beauty, of hot coasts and cool uplands, of forests and volcanoes, where the finest native civilization of the New World was cradled, and where the flora and fauna of two continents meet.

The little central continent, containing five small Spanish-American republics and one British colony, is the most fascinating part of the three Americas. Here rose, here fell the mysterious cultures whose evidences are found in the stone carvings and temples of the deep eastern forests; here dwell the dark-skinned, gentle descendants of the ancient people; and here are still untrodden ways of extraordinary charm. With every variety of climate from hot, fever-haunted jungle to cool and grassy uplands, with every production of the tropic and temperate zones growing in luxuriant profusion, Central America is yet but little known, a Cinderella of the New World.

Volcanoes as Fertilisers

Guatemala, running up into the Petén behind the coastal strip of British Honduras, spreads from Atlantic to Pacific; so does Honduras Republic, but its Pacific territory is squeezed into the Gulf of Fonseca because little Salvador lies along the western littoral; Nicaragua and Costa Rica each occupy the width of the tapering continent.

Altogether, the area amounts to about 177,300 square miles, sheltering not many more than five million people.

In Central America the great mountain backbone that runs from Canada to Cape Horn attains immense importance. The live peaks of these mountains directly influence the settlement of the bulk of the population, and, while they have time and again destroyed whole cities, they shower the volcanic ash fertilising the richest productive regions. So thick is this blanket that mineral exploration is frequently checked; most of Guatemala's surface, for example, is covered with volcanic ash layers varying from a few inches to 150 feet in thickness.

Beacons of the Pacific

Countless spurs run off from the central range, and Honduras in particular is seamed in all directions with intricate sierras; but in Guatemala, Nicaragua and Costa Rica the great cordillera is clearly defined as a barrier standing nearer the Pacific than the Atlantic; in its folds lie lovely lakes, fertile sunny valleys where populations have thrived since prehistoric times; from it rise the splendid volcanic peaks, some soaring to 11,000 and 12,000 feet, their craters so brightly aglow that the ships sailing the Pacific a hundred years ago set their course by these perennial watch fires.

The eastern and western shores differ widely in character and products. Towards the Pacific the mountain shelf (in Guatemala over 7,000 feet high) breaks sharply in a short descent to dry coasts; over the divide lies extended the long, gentle, green and moist slope of the Atlantic, threaded by innumerable rivers, clothed with dense, steaming forests, ending in fever-haunted swamps and lagoons. Nearly all the big towns



THE FIVE REPUBLICS AND ONE COLONY OF CENTRAL AMERICA

of Central America are upland cities; the chief exceptions lie upon the comparatively healthy Pacific, as in Nicaragua where the cordillera pushes the population to the levels of the lacustrine borders, or the Guanacaste peninsula of Costa Rica. Along this Pacific littoral, less wooded, less screened with reefs than the Atlantic, the conquering Spaniards created their ports of call, shunning the Caribbean.

Every morning is a bright morning, with transparent skies, opal peaks upon the sky-line, a carpet of flowers underfoot. In the rainy season, May to October, this rule still holds good, for the daily downfall starts with agreeable

punctuality every afternoon at half-past three, generally stopping about six, at the regular sun-down hour; one wakes to a brilliant dawn, with all the visible world well washed, newly decked and perfumed.

Innumerable rivers score the Atlantic slope, frequently creating formidable "bars" at their mouths, and bringing down volumes of silt and vegetable detritus that nourish splendid forests—the steaming, tangled, orchid-hung forests of childish dreams. The banks are living walls of green, frescoed with tree-fern, wild cane and lilies; huge buttressed trunks tower upwards—mahogany and ceiba and silk-cotton

holding to the sky their crowns of golden, scarlet and mauve flowers, 100 feet above. The ropes of wild vanilla, the red fire of tillandsias break the mass of emerald at head-height.

Behind the mangrove swamps of the coast one may find, here and there, pine flats and grassy meadows; these, near the rivers, may give way to huge stretches of "corozo" palms (*Attalea cohune*), the young fronds rising 60 feet, perfectly curved; there is no undergrowth, and the floor of the forest is carpeted with millions of dropped nuts; dappled sunlight comes through the interlaced leaves as through the

dim windows of a vaulted cathedral. Animal life is scarce, but you may hear in the distance the howling of monkeys, the harsh cry of hundreds of parrots, see the little white egret flitting like a ghost beside the water, or catch sight of the rainbow-bill of a toucan sitting on a bough. Enormous butterflies of brilliant colours dance over every pool; the leaf-cutter ant marches in endless procession with his umbrella of green held aloft; ocelot and puma and jaguar hunt the deer and will follow your horse for miles.

As the land rises to the sierras the forest is left behind, and on every open



Keystone View Co

NICARAGUAN FORT BY THE FRONTIER RIVER OF SAN JUAN

From Lake Nicaragua the San Juan flows for over 100 miles to meet the Caribbean Sea at San Juan del Norte and for part of the way the river marches with Costa Rica. The two republics have had many bickerings together, hence these time-worn fortifications and the little gun which is just about to rouse the echoes from the woods on the other bank



GREEN ACRES ON ONE OF COSTA RICA'S COFFEE ESTATES--

About 40 miles north of Puerto Limón the rapid-flowing Reventazon river discharges into the Caribbean. It is the district east of Cartago, whose contours become ever steeper as the mountain range is approached. The curious formation of the sides of this valley is due to their friable volcanic which is usually a deeper red or grey in colour and, appearing through the green, makes a beautiful



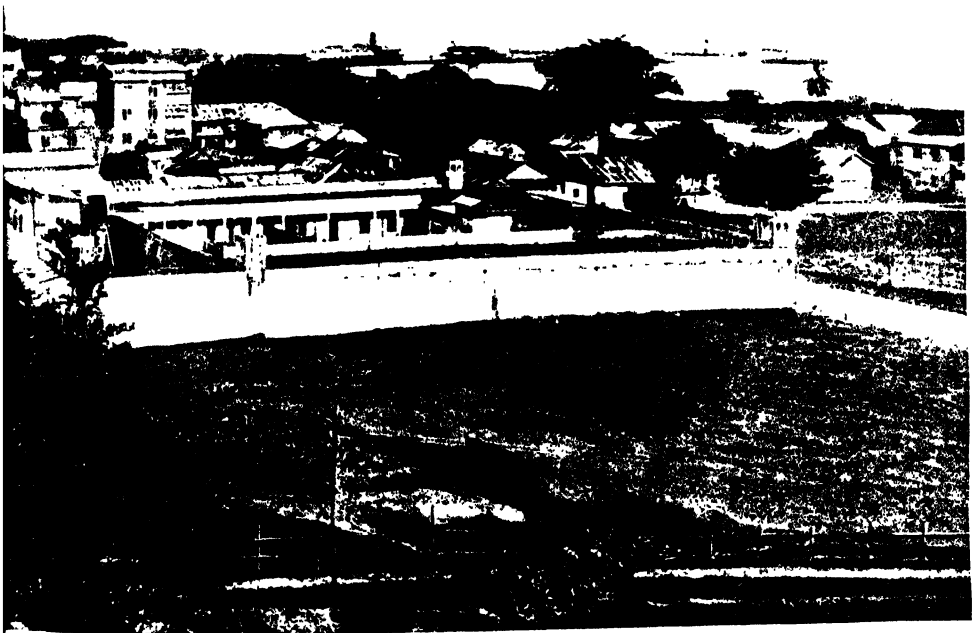
GRASS-GROWN AVENUE LEADING TO THE DOCKS AND THE SEA--

Costa Rica extends from one side to the other of the Central American isthmus where it narrows towards Panamá, and the only large town and important harbour on the Atlantic coast is Limón. As the traveller lands the abundance of trees in the streets, and the impression of a luxuriant vegetation generally, make him realise the aptness of the country's name, which translated means "rich coast."



IN A VOLCANIC VALLEY AT THE HEAD OF THE REVENTAZON

Costa Rican coffee takes a high place in the world's markets. This photograph shows a coffee "finca" or estate; out of sight in the foreground is its "beneficio"—drying ground—where the berries are laid after pulping and washing. The drying is usually done in January, and where possible water is run between the rows of plants, which stand in need of no artificial fertilisation in this fruitful volcanic soil.



IN PUERTO LIMON, THE MAIN ATLANTIC PORT OF COSTA RICA

As the terminus of the trans-isthmus railway to Punta Arenas, on the Pacific, and also as the Atlantic port of the capital, Limón is one of the first towns of Costa Rica. There is a regular service to and from Colón, Belize and New Orleans, and a brisk trade in coffee, bananas and the general produce of the interior. The railway running to San José, the capital, has to climb to an altitude of nearly 4,000 feet.



PALM-THATCHED HUTS OF EL CAYO A REMOTE SETTLEMENT OF BRITISH HONDURAS

El Cayo, an outpost of mahogany cutters on the course of the Belize River, stands in the Gig Harbor, an fringing which it occupies the well-known Belize River. The settlement is situated on a steep, rocky hillside, and the huts are built on a narrow strip of land, with a steep drop-off visible on the right side. The scene is illuminated by bright sunlight, creating strong shadows and highlights on the buildings and the surrounding terrain.

space are crops of maize and sugar-cane. Plantations of cacao (cocoa), with bright pods hanging from the trunk, are older than Spanish days, and once upon a time the drinking of chocolate was a tribal chieftain's privilege. Higher up, cocoa gives place to coffee, the exquisite coffee of Central America that fetches top prices in international markets. It was introduced in the late eighteenth century, grows best above 2,500 feet, and each tree is tended like a jewel, fed with runnels of water and shaded with the pretty little madre de café tree.

Tobacco, grown all over Central America, is indigenous, like cocoa and cassava and maize, so is the pineapple and the "nispero" (the best native American fruit after the pineapple), the red-fleshed zapote and the big-stoned mamey; the orange and lime were introduced by Spaniards, together with the mango and sugar-cane.

Alien Plants and Beasts

These alien plants thrive, as the alien horse and sheep, cattle and goats and domestic fowls flourish in the Americas; the indigenous people had no beasts of burden, and no large domesticated food animal. Deer from the woods, the little peccary and an occasional tapir yielded meat; so did the iguana, gigantic river lizard; the wild turkey (properly the curassow) was the best edible bird, and there was always fish.

The volcanic backbone here, as north and south, has been lavishly sown with minerals, yet productive mines are to-day comparatively few, and there are no metal-working industries. Silver, generally in conjunction with lead, has been worked in the Guatemalan "Altos" for hundreds of years, the low grades serving as an ingredient of the wonderful pottery glaze of the Quezaltenango region. Placer mining upon the Motagua and the Polochic in Guatemala, and upon a score of Atlantic-flowing rivers in rich Honduras and Nicaragua, is carried on. Cost of transport prohibits the working of non-precious metals.

The chief preoccupation of Central America is agriculture. From the plantations of cocoa, sugar and coffee have come the chief money gains of Central America.

On rich land, of deep alluvial and vegetable deposits in the river valleys or clothed with volcanic ash, production is luxuriant. I have never seen more enchanting estates than those in the coffee country of Central America, with their lanes of waxy, scented blossoms; or the bright green flats of sugar and the dappled little woods of cacao trees.

Flourishing Native Handicrafts

Where such natural grass pastures exist as those of Nicaragua near the Costa Rican border, cattle multiply amazingly, but apart from the cultivation of alfalfa, chemical fertilisers and irrigation are an unneeded luxury.

Handicrafts also excel here. Every Indian woman is a weaver of native cotton and agave fibres and the old pottery and basket-making arts have been preserved.

Modern pottery, produced under less happy conditions, is inferior, but there is plenty of it, because fine clay is abundant; the same abundance of materials applies to basketwork, the list ranging from reeds to leaves of the agave and palm, willow and bamboo, and conifer roots.

Ocean Gateways of Trade

In pre-Spanish times there were main roads (still known to and used by the native folk) all the way from Mexico to the heart of the Quiché country. Spain forbade her overseas colonies to trade with each other, and the commerce of Central America was for three hundred years practically confined to the yearly visits of the tall Spanish galleons, touching at Pacific ports on the way to Mexico and Peru and the Philippines, and, later, the welcome calls of smugglers. These ocean gateways of the west coast are still the same: Ocos and Champerico and San José in Guatemala; Acajutla, La Libertad and La Unión in Salvador;

Amapala in Honduras; *Corinto*, successor of *Realejo*, in Nicaragua; and *Punta Arenas* off Costa Rica. On the Atlantic side the majority of the ports are as new as the railroads.

Belize (British Honduras) is an old mahogany port, but *Stann Creek* was galvanized into life by the building of the twenty-mile railway; *Barrios*, main port of Guatemala, was created a few years ago by the completion of the railway from the capital; *Puerto Cortés* (Honduras) gives access only to a few miles of line, and remains almost as sleepy as *Trujillo*, while its neighbour, *Tela*, is a new banana port, leading nowhere. The great interior of Honduras is unopened, its territory barred by hills; travellers who cannot face a week's mule ride across country from the Caribbean must enter by *Amapala*, up the *San Lorenzo*, and by a good motor road to *Tegucigalpa*.

Nicaragua is likewise a blank as regards active Atlantic ports; *Bluefields* gives access to a few banana plantations; *Greytown* (*San Juan del Norte*) has

dwindled since Britain gave up the *Mosquito Coast*, and hopes of a Nicaraguan transcontinental canal were quenched by *Panamá*.

Costa Rica's chief port, *Limón*, has existed only since the completion of the railway from the highland capital, and *José*, opened an Atlantic road beside the turbulent *Reventazon* river.

Two Central American states, Guatemala and Costa Rica, possess railways running right across from sea to sea, and serving midway the central plateau of the capital; in each case the rise from tropic jungle to the clear atmosphere of the superb mountains is a miracle of beauty. Guatemala is distinguished by having also rail connexion with Mexico on the north.

Guatemala has nothing but a tiny strip on the Atlantic coast; *Salvador* has a system running inland from *Acajutla* port to *San Salvador* (2,000 feet elevation, as compared with Guatemala's 7,000 and *San José* de Costa Rica's 4,500) with a branch to *Santa Tecla*. Nicaragua's lines all lie on the Pacific



SCHOONERS IN HARBOUR AT BELIZE, CAPITAL OF BRITISH HONDURAS

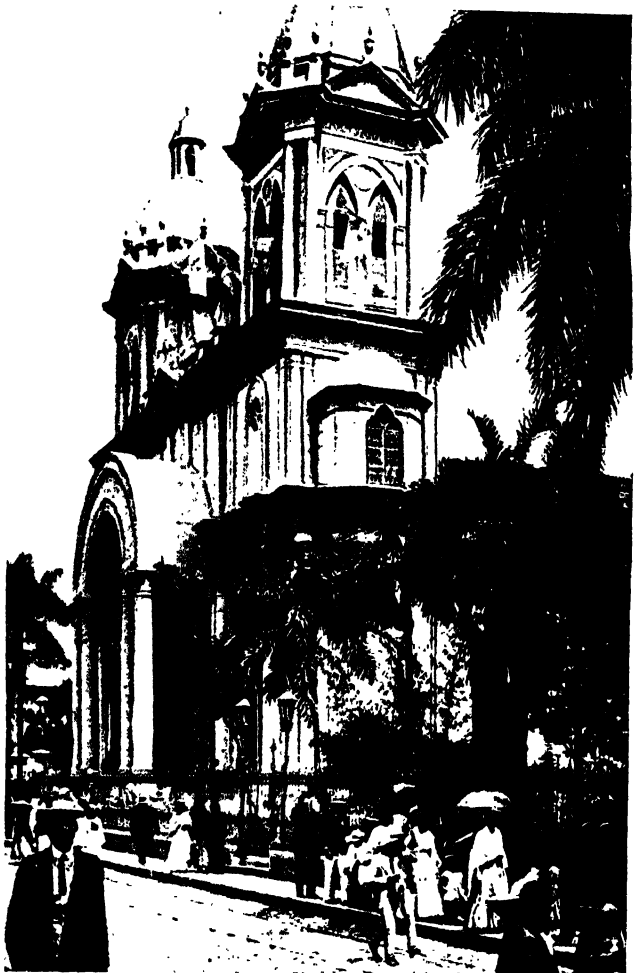
With its face to the blue Caribbean and an archipelago called the *Turneffe Islands*, *Belize* is the chief export town of this isolated British colony. *Tortoiseshell*, *logwood*, *mahogany* and *banana* are the chief trade goods, and they are shipped in small schooners as the harbour is reef-bound and difficult to enter. The population of over 10,000 suffers from an unhealthy climate

coast connecting the low-lying lake cities, Managua and Granada, with the old capital, Leon, and the port of Corinto.

Rivers of the Pacific are too small and boisterous for traffic as a rule; the most notable exception is the fine Lempa of Salvador. On the Atlantic are greater rivers, old highways for Indian dug-outs whose hard sides are able to withstand cataracts and "runs"; in most of the densely afforested areas these are still the only means of transport. Small steamers ply upon the beautiful Dulce, leading to Lake Izabal and the Polochic river, with its little railway, in Guatemala; and upon the Segovia, the Bluefields and reaches of the San Juan in Nicaragua. Motor boats traverse many of these streams, from the Belize river southwards, but runs and cascades prohibit larger craft. If foreign trade is small, Central Americans are able to live more easily than most people

upon their home products, and nowhere does poverty wear a less terrifying face.

The upland cities of Central America are delightful when they have retained a Spanish colonial flavour; such cities are built on a rectangular plan, streets running off at right angles from the main plaza, a big square where the cathedral and the municipal buildings stand; it is usually full of bougainvilleas, lilies and palms, and round the central band-stand there is a regular daily promenade before sundown at six o'clock. Guatemala City, built in the 1770's



C. W. Kendall

SAN SALVADOR'S CATHOLIC CATHEDRAL

While most of the houses in Salvador's capital are built low because of earthquakes, the cathedral's towers stand high against the black neighbouring volcano. The population exceeds 80,000 and manufactures cigarettes, cotton goods and soap

and rebuilt after destruction by earthquakes in 1917, was the most dignified and engaging example of a Spanish-American city. In contrast the new Santiago de Guatemala was always rivalled by the old "La Antigua," most beautifully placed on a green plain ringed by volcanoes, with villages thriving in the fertile valleys.

San José de Costa Rica is another mountain-cradled capital, succeeding Cartago as chief city after Independence; but lovely old Cartago was ruined by an earthquake in 1910, and Alajuela and Heredia remain the finest of colonial

towns of this charming little country; Tegucigalpa, capital of Honduras, is also placed inland, among hills, over a hundred miles from its nearest port, and without any rail connexion.

Nicaragua's capital, Managua, is a dusty, comparatively modern town, fruit of the rivalry of Leon and Granada. San Salvador, inland from Acajutla port, stands on the mountain shelf

out at sea and lighter their goods ashore. Since the end of last century the archaeologist has studied scientifically the wonderful, the elaborate and beautiful sites of temples and cities in the region. Along the valley of the Usulután, along the valley of the Motagua, lie the supreme examples of Maya art, and, centred in Guatemala, the arms of the culture stretch south into Hon-



C. W. Kendal

SEASIDE AVENUE OF AMATE TREES AT PUNTA ARENAS

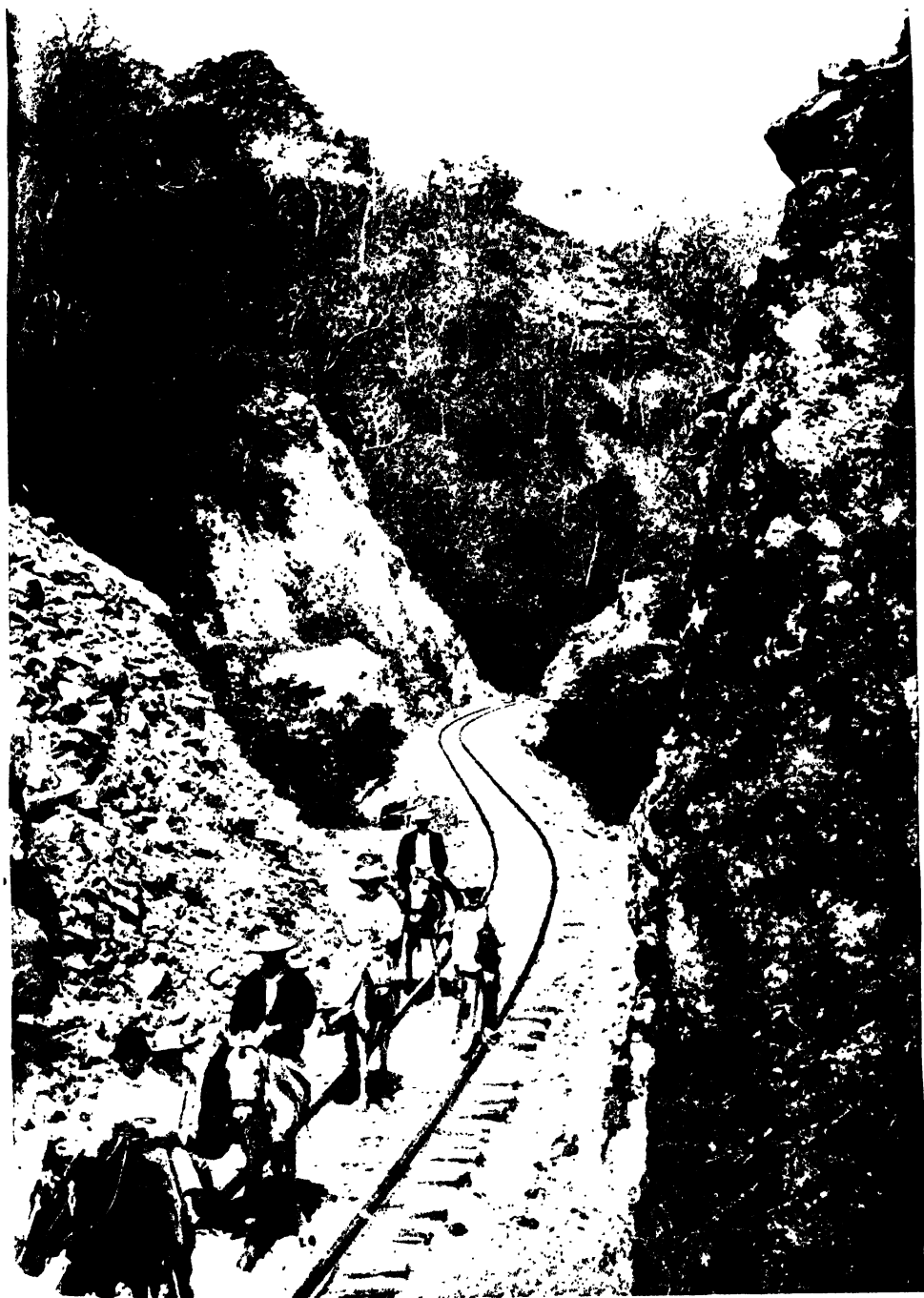
Built along the beautiful Gulf of Nicoya, whose expanse is studded with islands, Punta Arenas is one of the most attractive towns in Central America. The townfolk, some 5,000 in number, have made the most of their water-front with a promenade and an avenue of amate trees with their laurel-like foliage. A railway from San José serves the town which is Costa Rica's chief Pacific port.

2,000 feet up, and has been rebuilt so many times on account of earthquakes that no buildings of interest remain; paint conceals the frail adobe and sheet-iron of most big erections.

Central America's ports are nothing but places of call—all are extremely hot—the Atlantic coast all-the-year-round temperature averages 92° Fahrenheit—and the little nations are not wealthy enough for fine port equipment; few ports own other aids to shipping than a wooden pier, and most are open roadsteads where vessels lie

duras, north-west into Chiapas in Mexico, and north by north-east to the scenes of its final phase in Yucatan.

The migratory movement of the temple-builders from Copán northwards can be fairly traced; and it happens that, since British Honduras begins at the boundary of the Sarstoon river, and runs, a strip of fruitful coast, to the valley of the Hondo, a number of typical and most interesting sites are upon British soil. Stone slabs, elaborately carved, and frescoes covering great enclosing walls have been found.



RAILWAY TRACK IN COSTA RICA MAKES A USEFUL ROAD

Costa Rica's chief railway is a single track climbing up from Puerto Limón and over the mountains to the Pacific at Punta Arenas. The line starts in the tropics and ascends more than 5,000 feet to a temperate zone climate. Much of the time the train crawls upon the edge of ravines, panting up steep gradients and curling round sharp curves, always through fine scenery

At Santa Rita, near Corozal, north of Belize, is the site of what must have been a huge settlement; still existing is a series of fifty or more mounds, where brilliantly coloured wall paintings have been brought to light, and whence a chain of artificial hillocks guards the coast for over 100 miles. The whole territory of British Honduras is strewn with eloquent tokens of the past—fragments of exquisite painted pottery, of beads and clay figurines, of worked stones, of stone tools and weapons and ornaments of shell and jadeite, some carved with weird hieroglyphic figures.

Follow up-stream from Belize town the deep-flowing, forest-flanked green Belize river for 150 miles and you will come upon the settlement of El Cayo. Here was an ancient Maya site, and here the villagers of to-day still find the soil genial. But push still farther up-stream in a narrow dug-out, and you will presently reach Benque Viejo, with its masses of worked limestone blocks, carved and in disarray, and the mounds that mark the temple foundations of the Maya as they passed north slowly, century by century. Within a comparatively short distance

are the splendid sites of Tikal and Naranjo, Uaxactun and Ucanal.

Almost any part of this territory near the Guatemalan boundary is rich in remains of great historic value; but, however fascinating the sight of such vestiges may prove, it must never be forgotten that these are but the residue of the buildings above ground, the residue that could not easily be carried away and utilised by modern villagers; below the carpet of the soil is a wealth of untouched evidence.

Inland from Punta Gorda, where the belt of British Honduras is at its narrowest, the ruins of a magnificent Maya city covering an immense area were found, the pyramidal foundation mounds rising 300 feet above the floor of the valley. The prospect opened out by this discovery, upon British soil, of an untouched and hitherto unknown Maya site, is of world-wide importance; for, given careful exploration above and below the surface, with scientific records made by every resource of the trained archaeologist, we may hope to receive an insight into the mysterious past of this vanished race that will provide the answer to problems that have long defied solution.

CENTRAL AMERICA: GEOGRAPHICAL SUMMARY

Natural Divisions. Physically, Central America is older than the Rockies or the Andes; like Mexico and the West Indies it is a relic of the ancient continent of Antillia. While the Cordilleras, the Rockies and the Andes trend north and south, the old mountain ranges of Central America run east and west, parallel with the line of Cuba. Even the newer limestone mountains and the depression which is marked by Lake Nicaragua have the same trend. The shape of Central America is due to these old mountains, of which the roots form the modern plateau and the fractured edges the coastal scarps. Petén and the Mosquito Coast are plains, the latter being continuous with the submarine Mosquito Bank.

Climate and Vegetation. Tropical in temperature, with typical tropical rains—i.e., heavy daily showers which come in the afternoon when the solar radiation has reached its maximum about 3 p.m. Jungle forest on the lowlands, hardwood forest on the slopes and open parkland on

the uplands where the elevation keeps the temperatures moderate. The on-shore trade winds of the North Atlantic cross the Caribbean Sea and provide moisture for the heavy coastal rainfall and the mangrove lined coastal swamps of the east coast; on the whole the west coast is generally in the rain-shadow of these winds and is dry.

Products. Ores of gold, silver and lead are worked on a small scale, but costs of transport are heavy. Imported cattle and sheep thrive and supply home markets. Coffee, cacao and sugar are valuable products for export, but their cultivation depends upon world prices, and these are generally against Central American crops. Bananas and other fruits are being cultivated for the United States market on the east side.

Outlook. Largely a self-contained and self-sufficing unit, Central America does not seem likely to progress greatly, although its abundant natural resources may be exploited by others.



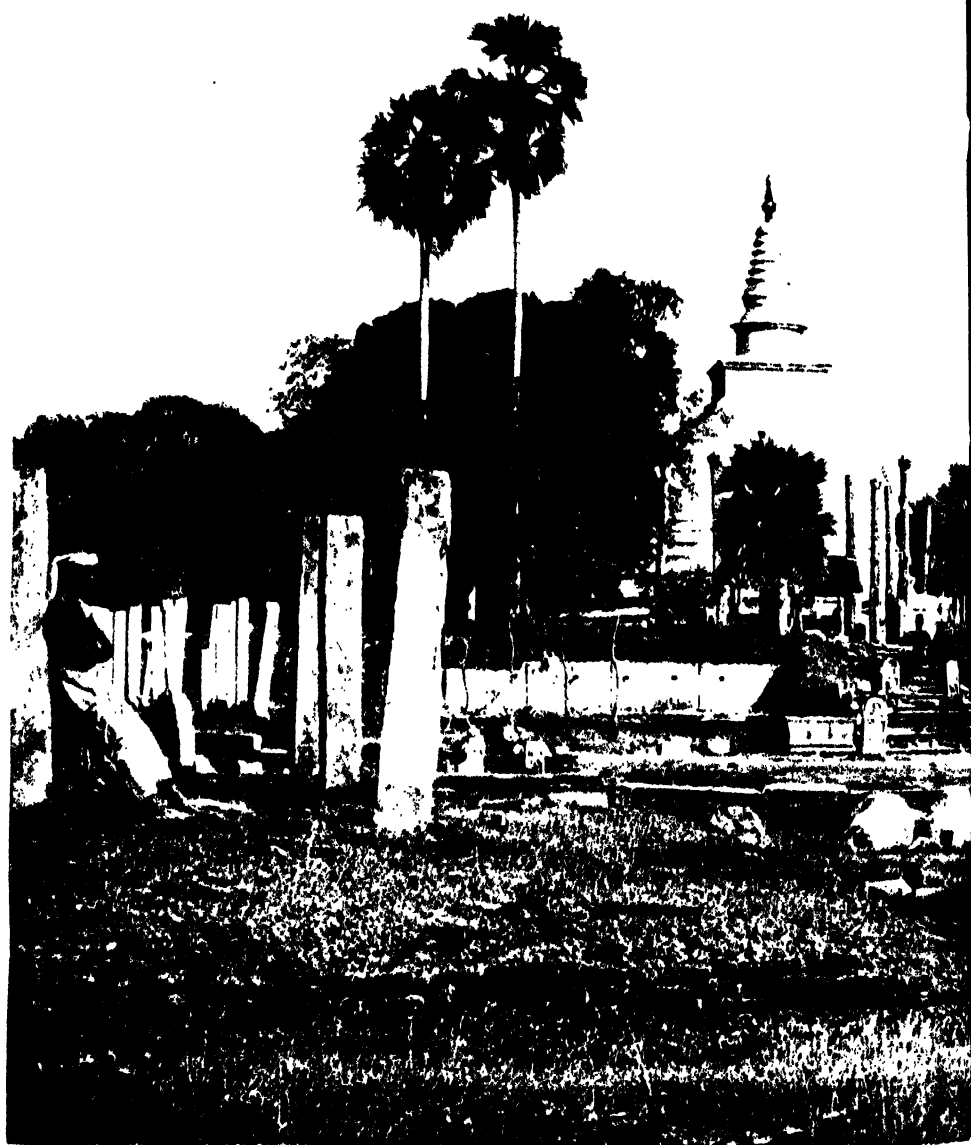
CENTRAL AMERICA. Carved with such depth as almost to be a statue, this Maya date-marker at Copan, Honduras, is a masterpiece



CENTRAL AMERICA - RIVER



Ceylon. River scenery is incredibly lovely throughout Ceylon. Peacock feathers, banyans, and luxuriant foliage line the banks and paint the water. Boats, with their red and white sails, ply upon the rippling waters.



CEYLON. Built by King Tissa about 307 B.C. to contain the collar bone of Buddha, the Thuparama is one of the eight sacred places at Anuradhapura.



The dagoba, 65 feet high and 40 in diameter, stands on a platform reached by stone steps; slender monoliths with carved capitals surround it



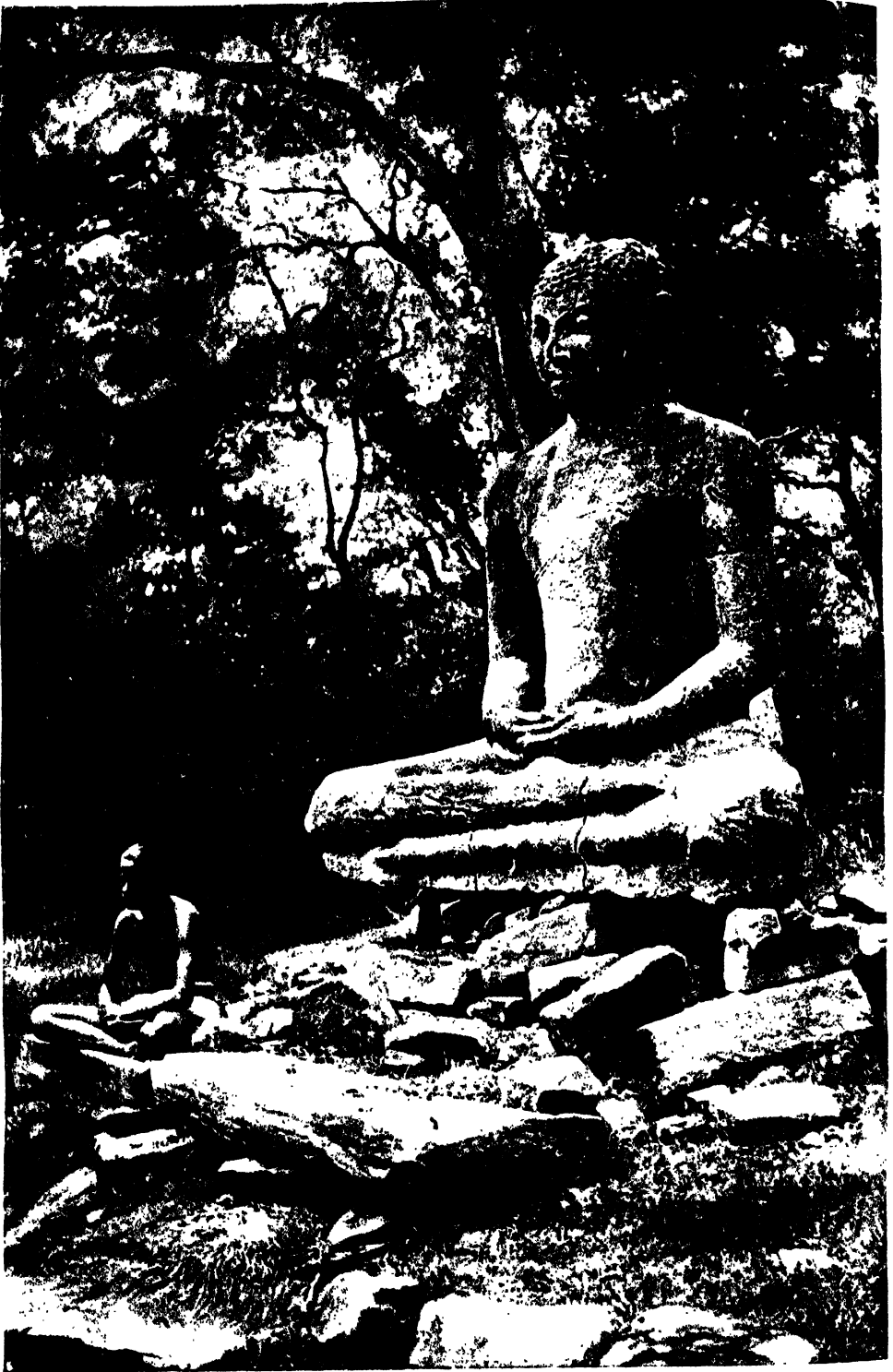
Under a soil

CEYLON. Hock deep in liquid mud buffaloes draw the wooden ploughs through terraced paddy-fields sodden with precious water



Underwood

CEYLON. At Talagakele, in the heart of the Dimbula tea district, hundreds of women earn good wages by picking the delicate leaves



Ceylon. Seated as if wrapped in meditation this colossal stone figure of Buddha is a relic of the past glory of Anuradhapura

CEYLON

Lovely Island of Flower and Forest

by G. E. Mitton

Author of "The Lost Cities of Ceylon," etc.

AN island so well known as Ceylon is comparatively easy to deal with as a unit. The time-honoured comparison of its outline to a dropped pearl has given way to the more homely simile of a pear, with greater accuracy. Some pears are very much this shape and are bent over at the stalk end, as Ceylon is bent in the Jaffna peninsula. With the exception of certain indentations which are noted below the coasts are uncommonly smooth in outline.

The island, if it could be seen comprehensively from overhead, would appear to have been grasped somewhere about the intersection of the major and minor axes when in a plastic state by a Brobdingnagian hand and drawn upwards by the fingers. The ancient capital, Kandy, is about at the intersecting point, and if it, and the sacred mountain, Adam's Peak, could be taken as the twin foci of an ellipse any such ellipse would include all the higher altitudes in the island. The southern half of the island is the area of the greatest rainfall and, as naturally follows in a tropical country where growth depends on moisture, of the greatest agricultural activity. The northern zone is the dry zone.

Stark Outlines of Adam's Peak

The mountainous region, in the centre of the south, contains the magnificent scenery which attracts visitors from all parts of the world. The prime agency has been volcanic, and the rocks belong to the crystalline order, with granite and gneiss in abundance and streaks of quartz here and there.

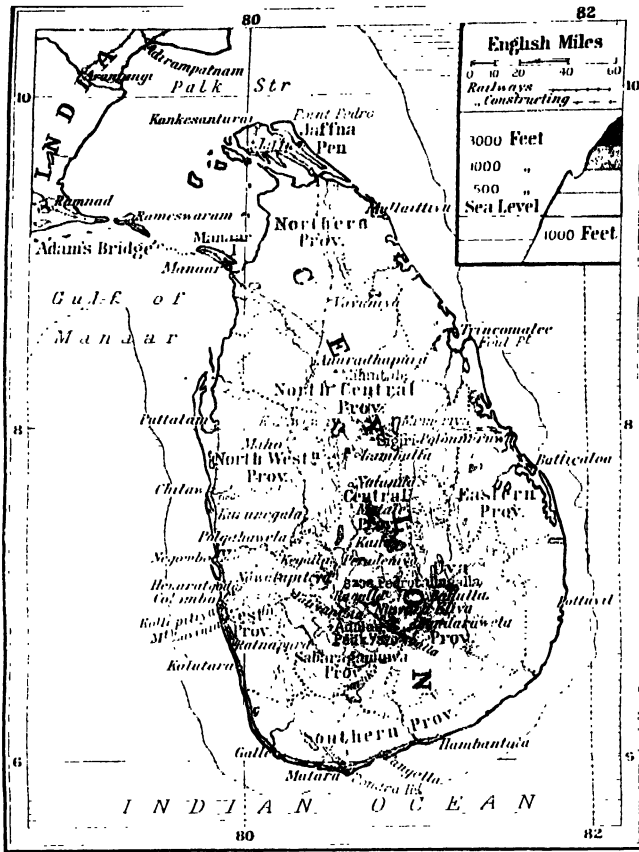
As is usually the case, these peaks, being formed by volcanic action, show

more startling configuration than those moulded by the agency of water. Adam's Peak is 7,353 feet high, and its sharp, cone-like outline is as easily recognized as that of the much higher Fujiyama. It is surrounded by a labyrinth of lesser heights, with rapid rivers, deep ravines, towering crags and serrated edges tumbled in confusion. The whole of the 7,000 feet rise is accomplished in the last nine miles. The final climb is by means of steps and ladders over the bald cone. But Adam's Peak is not the highest point in the island as commonly supposed by those who see it for the first time; the highest is Pedrotallagalla (Pedro), 8,296 feet, near Nuwara Eliya.

Grandeur of the Hill Country

Over the whole area of the hill country the scenery is grand. The ridges have a general tendency from south-west to north-east. There are giant caverns in many places—particularly noted at Dambulla where they are utilised by the monks—and natural arches of rock of massive form are not uncommon. If to this is added the luxuriant vegetation of a fertile island, clothing slopes and summits and falling in matted veils over the sides of precipices, some idea may be gained of what it is that draws so many sightseers to Ceylon. The scenery around the famous hill station Nuwara Eliya is very fine, with splendid vistas of forest and water, cliff and peak and plain all mingled.

The railway which leads to it from Colombo comes up from the coconut fringed coast through the paddy-fields of the lower lands and by startling changes of level rises around gigantic masses of rock overlooking miles of flat



CEYLON, INDIA'S "DROPPED PEARL"

country. The train crawls along on mere shelves hewn from the scarped precipice and doubles on itself in curves, so that guard and engine-driver can almost exchange civilities in passing. There is nothing quite so abrupt in the same length as the rise from the plain of Mandalay to the hill country at Maymyo in Burma, but there is much more of it in Ceylon and the journey itself, apart from the objective, is worth making.

Detached hills in the plains are uncommon and, when they do appear, stand up abruptly as in the case of the sacred hill of Mihintale in the North Central Province with its wedge-shaped outline, and the extraordinary boss of red granite rising sheer to 400 feet at Sigiri. A red tinge is noticeable in the soil in many parts of Ceylon. The red roads of Colombo, formed by the laterite dust, are well marked and contrast

tropical zones the annually recurring changes of temperature are steadier in rotation than in a temperate zone. The north east monsoon is the drier wind, and perhaps the month in the year which visitors would do best to avoid is the one which in most countries of this latitude would be chosen - that is to say January, when the wind sweeps up the red dust in the streets of the capital, causing dryness, loss of voice, sore throat and other unpleasantness - though there are occasional showers and the nights are always cool and fresh.

Indeed, in the matter of temperature, no part of Ceylon can be called extreme. The average is about 80° at Colombo. March is a hot month and April, just before the breaking of the south-west monsoon, is the most dreaded. It is then the time for residents to go to the hill stations. In the island

strikingly with the yellow crotons, gaudy hibiscus and the rich hues of the shrubs overhanging them. Red appears in the arable soil of Jaffna, and is supposed to have its origin in a tinge of iron amid the coral detritus.

The climate of Ceylon is remarkably good considering its position, latitude 5° 55' to 9° 51' N., longitude 79° 41' 40" to 81° 54' 50" E., but naturally varies very much owing to the variation in contours. The temperature is influenced by the fact that the area is comparatively small (extreme length 271 miles and width 139; total area 25,481 square miles) and is surrounded by the sea. From October to May the prevailing winds are from the north-east, and during the rest of the year from the south-west. As in all

There is vegetation all the year round, some trees shedding their leaves and bursting forth in new foliage at the same time; yet in April vegetation is at its deadest. Then the south-west monsoon wind sweeps up, bringing with it the moisture garnered from its passing over thousands of miles of ocean, and, if the rains are good, crops are ensured and there is a general feeling of relief.

The rainfall varies greatly, not only from place to place but from year to year. For instance, in 1922 there was excess of rain in a narrow belt on the south-west face of the hills and a marked deficit in the interior. What rain can mean in Ceylon may be understood from the fact that the heaviest fall on record in that year was at Nawalapitiya where 228.4 inches fell in 217 days. The lowest recorded rainfall was at Hambantota, 33.6 inches in 101 days. The rainfall at Colombo for that year was 87.82 inches in 109 days.

The figures for the hill districts also vary enormously, from 200 inches at Adam's Peak to 50 inches elsewhere, while in the drier districts of the North Central Province 50 to 75 inches is a good record. There are occasional showers during June, July and August, and in September the north-east monsoon gives signs of its approach. It brings some rain and disturbances generally. As is natural such monsoon affects more strikingly the part of the island at which it arrives, and driven against the hills is robbed of its moisture.

As befits a hill station 6,000 feet above sea-level, Nuwara Eliya is cool. The shade temperature recorded there in 1922, 31.5° F. on February 24, was the lowest in the island, while Kurunegala claimed the highest with 101.3° F. on April 1.

Of the numerous rivers of Ceylon, by far the largest is Mahaweli-ganga, rising near Adam's Peak and flowing into the sea by two mouths near



SOUTH-WESTWARD VIEW OF ADAM'S PEAK FROM MASKELIYA

Adam's Peak, 44 miles east of Colombo, and 7,353 feet in altitude, is the most venerated spot in Ceylon. A curious depression in its summit, 54 feet long, 27 feet wide and three to five inches deep, is revered by Buddhists as a footprint of Buddha, by Hindus as that of Siva, and by Mahomedans as that of Adam, who, according to legend, here expiated his first disobedience in Paradise.



GENERAL SURVEY OVER COLOMBO HARBOUR FROM THE FORT

King Edward, when Prince of Wales, inaugurated Colombo Harbour in 1875 by laying the first stone of the south-west breakwater, here seen on the left. This and two other breakwaters now enclose a square mile of water accommodating about fifty ocean-going vessels. From the harbour the traveller passes into the Fort, the district containing the governor's residence and government offices.

Trincomalee after a course of 134 miles, with a trend from south-west to north-east. None of the others can compare with this for length or stateliness. Others of lesser current fringe the spine of the northern part of the island to east and west. The silt brought down by the rivers has formed in heaps at their mouths and being driven by the winds and sea-currents has spread into bars, which hold within them lagoons or channels.

So regular are some of these that they are like canals and where they intercommunicate they form a regular means of local transport. The Dutch

cut channels where necessary to connect them in some cases. Near Batticaloa on the east is a huge labyrinth of such waters covered with coconut palms, and again they appear from Trincomalee northward, while on the west side Kollupitiya can be reached by this means from Colombo or Kalutara.

The second largest river in the island is the Kelani-ganga, which is about 80 miles in length and empties itself into the sea at Colombo. But while on the subject of internal water supply it must be stated that in the dry zone the giant "tanks," so-called, in reality immense sheets of artificially

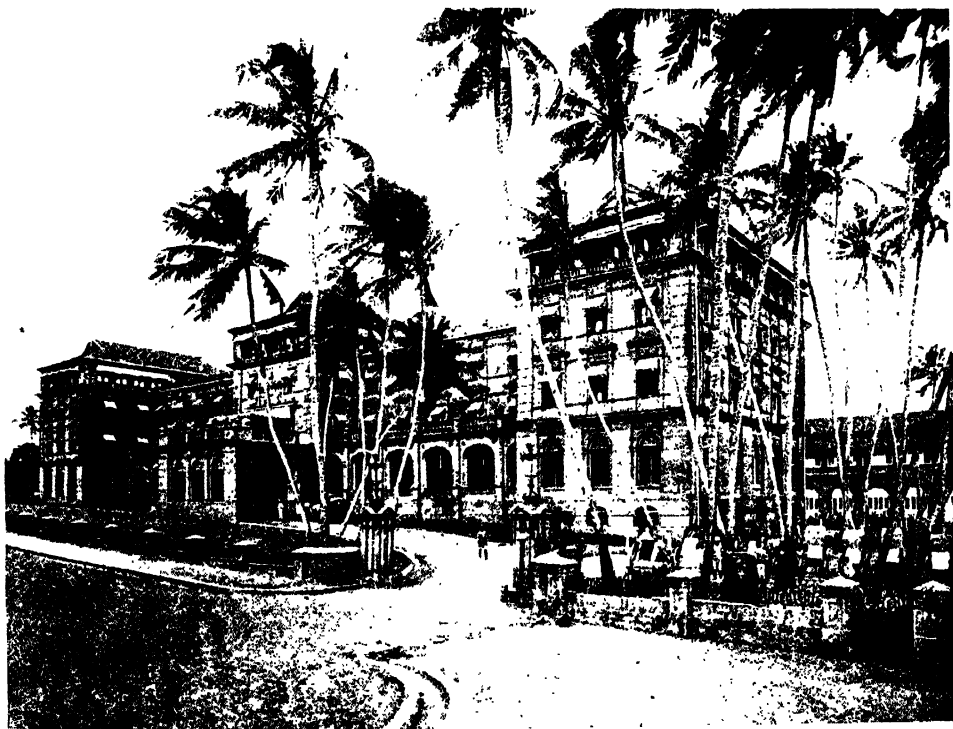
closed water linked by canals, have been of more importance to Ceylon even than her rivers which are either blocked by rapids and churned over falls, or are sluggish currents, shallow in draught. From the earliest days the tanks, under the supervision of the Sinhalese kings, were considered works of merit not even second to the building of shrines and temples. It is impossible to specify all of them. Minneriya in the North Central Province is 30 miles in circumference, while Kalawewa is a little less.

As the incursions of the Tamils grew more severe the Sinhalese had so much to do to defend themselves that these mighty works were allowed to get out of order; the land dependent on their supply of moisture fell out of cultivation and was quickly overspread by the jungle; famine and want followed, and as a consequence the population was reduced. It is one of the fundamental

duties of the Public Works Department in Ceylon to repair and supervise these tanks and increase them so that every village has its water supply. There are now approximately 5,200 village tanks and "elas" (cuts) in operation.

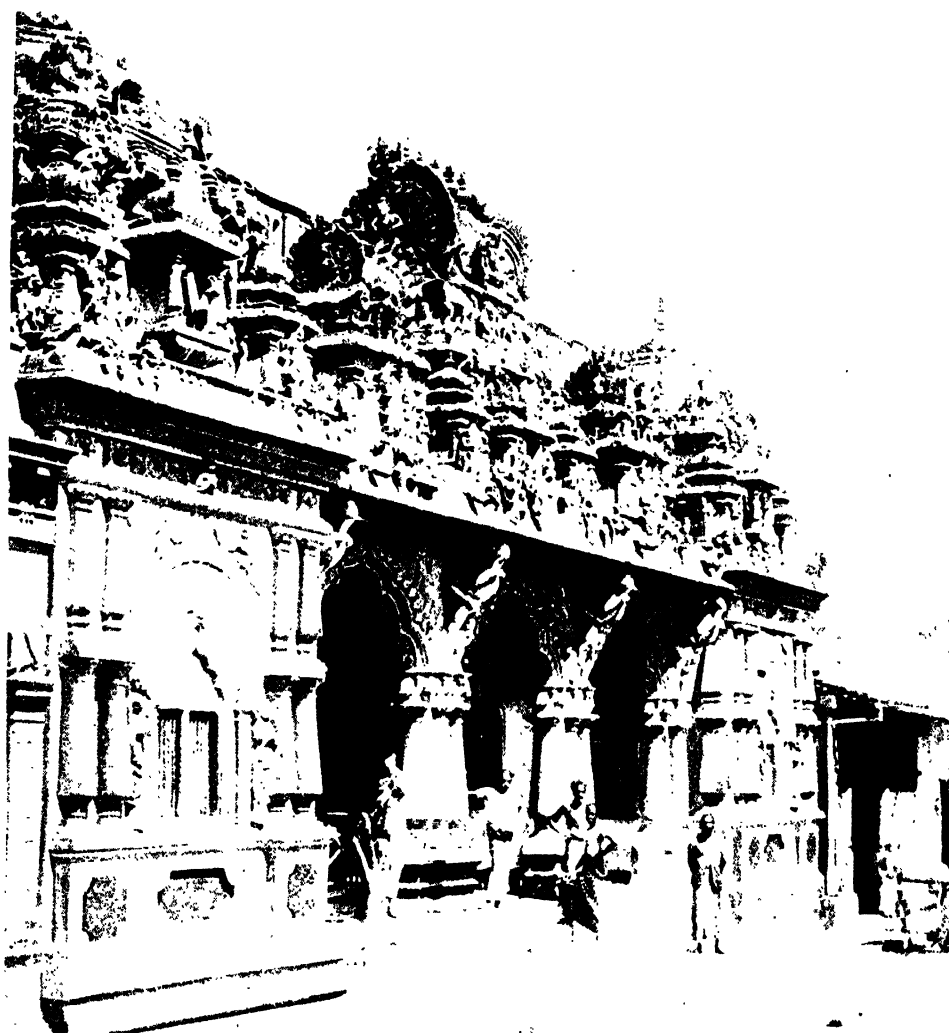
The sea coast of Ceylon is for the most part flat and sandy, interlaced by the roots of the coconut palms which grow to the edge of the salt water, waving their graceful crowns above the waves. The sea under a tropical sun takes on a deep brilliance of colouring, and the green vegetation decorating the headlands breaks up the stretches of yellow sand. Mount Lavinia south of the capital is particularly celebrated for this kind of scenery.

At Jaffna there is an extensive coral formation and blocks hewn from this are used in construction work and for road-making in the absence of other stone. Wells are found in the coral, and palmyra palms grow in



COLOMBO'S PALATIAL CARAVANSERAI: THE GALLE FACE HOTEL

Galle Face, flanked on one side by the sea and on the other by a lake, is an open lawn about a mile long and 300 yards wide, used as a recreation ground by the people of Colombo. At its southern end is the Galle Face Hotel, one of the finest caravanserais in the East and a favourite resort of all visitors who come to the great seaport of Ceylon.



ANCIENT HINDU BUDDHIST TEMPLE IN COLOMBO

Sea Street in the Pettah, or native town, of Colombo, where the dealers in rice and cotton dwell is being modernised, but two small Hindu Buddhist temples still occupy their ancient spot unchanged. A multiplicity of figures crowds the very ornate roof of this one and four quail elephants occupy the spaces between the arches that spring from the pillars in the portico.

abundance. The extraordinary formation known as Adam's Bridge was supposed at one time to have connected the island with India, but later authorities hold that it has risen, not sunk, in the course of ages. The ancient tradition, however, that it was constructed by the monkeys, allies of Rama, when he followed his abducted wife Sita to retrieve her from the King of Lanka (Ceylon) is still kept alive.

The "bridge" is a bridge in name on the train runs down to the end of island of Manaar and the passengers are taken across the ferry to the lying sandy spit of Rameswaram India by steamer.

The harbours of Ceylon are Colombo, Galle, Trincomalee and Jaffna, of which Trincomalee, with its towering rock fort in height, is far the finest natural but owing to its situation on the north



PRINCE STREET; A PLEASANT SHOPPING CENTRE IN COLOMBO

Colombo differs from many great seaports in having no slums between the landing place and finest quarters. Wide streets with good roads, umbrageous trees and hand-ome government and commercial offices distinguish the district known as the Fort. Prince Street, shown here, running parallel to the harbour front and connecting Queen and York Streets, is an imposing thoroughfare

east side of the island is of comparatively little use. Galle was at one time of the greatest importance for calling ships, but has been altogether superseded by Colombo, which, from being an open roadstead, has been made into one of the most notable harbours of the East, with all the latest improvements and conveniences. The deepening has been so far carried out that ships with a draught of 33 feet can enter at any state of the tides, which are small

The oil installation completed in 1922 has developed enormously; the best-known companies in the world have established huge warehouses and storage buildings, and many vessels bunker here. The harbour railway, graving dock and patent slip, with the break-water and jetties, are all works of vast importance.

Enough has been said to show that the scenery of Ceylon is of singular attractiveness, and this, taken in



E. S. A.

TERRACED RICE-FIELDS AMONG THE VERDURE-CLAD HEIGHTS OF THE HILLY KANDYAN COUNTRY OF CEYLON

Paddy cultivation requires land that will retain water up on its , irrice and Sinhalese agriculturists have developed astonishing ingenuity in their method of irrigation. They saw that the hills, bringing the earth thus removed to the front edge of the levelled ground, and using it to form shallow dams, the general effect being the construction of a series of pans the shape of which follows the contour of the hills. Every step it is to be noted to find these terraced paddy fields, a products of stone, coral or bamboo being constructed with a skill that would do credit to trained engineers.

connexion with its accessibility, a climate in which there are no violent extremes, excellent roads and interesting history, is enough to account for its becoming known year by year to an ever-increasing number of the world's population. Among its attractions not least must rank those famous "Lost Cities," for generations buried in the jungle, which by their striking architecture and sculpture have assured the ancient Sinhalese race a place among the artist nations.

Anomaly of Ceylon's Administration

Ceylon is a Crown Colony, and as such is under the administration of the Colonial and not the India Office. It sometimes strikes newcomers as rather absurd that an island so closely tied to India by position and at least one of its races should be entirely separate in administration, while Burma, where the people are totally distinct, should be joined up willy nilly as a unit in the Indian whole. The island is divided into provinces, of which there are nine. In addition to the obviously named Northern, North-Central, North-Western, Eastern, Central, Western and Southern provinces, there are the provinces of Uva and Sabaragamuwa, lying to the north of the Southern Province.

A Paradise of Vegetation

The Royal Botanic Gardens at Peradeniya, near Kandy, are world famous. They are under the Department of Agriculture. Connected with them are an experimental garden on the other side of the river Mahaweli-ganga and branches at Henaratgoda, near Anuradhapura, and at Hakagalla. Seeds and leaflets are distributed by this department, lectures and practical demonstrations are given so as to encourage the small grower. Diseases of vital agricultural industries are closely studied.

The vegetation of Ceylon is justly renowned; first of all must be mentioned the palms already spoken of as fringing the low-lying coast. The varieties of palm are many, the coconut-

palm, the palmyra and the areca being known to all. The talipot and the jaggery or kitool are not so widely distributed. The former grows sometimes to a height of 100 feet and its huge leaves are carried by the islanders as umbrellas, for they can be conveniently folded when not in use.

The tree flowers but once in a supreme effort before it dies, but its flowering is one of the marvels of the vegetable world. After some forty years of growth it develops a bud or sheath over a yard in height, and this, breaking out and stretching upward, becomes a mass of myriads of tiny cream-coloured blossoms, looking like a huge head of froth.

Trees and the Forest Department

The jaggery palm yields a sort of rough brown sugar from its sap. Jaggery is also drawn from the sap of the palmyra. The greatest anxiety of the Forest Department is to ensure the growing of the more valuable timber, and to prevent its being used for common purposes, such as the making of tea-boxes. Ebony, satinwood and mahogany are indigenons, and jack and medun (allied to the Indian blackwood) are also native. Teak has been planted in hopes of emulating the profits drawn from the forests of Burma, but so far without much success. The tamarind is another tree notable for its beauty of growth and size; the whole family of the ficus tribe flourishes amazingly. mangroves fringe the coast swamps, the vira tree grows freely; bamboos are only second to palms in general utility.

The jack is valuable on account not only of its hard-wood timber but of its fruit, which is really more like a vegetable. It resembles an enormous pumpkin and springs from a small tough stalk straight from the trunk. Being the largest known fruit it forms a staple of food in a homely way and is used for feeding stock, too. But turning to the fruit-bearing trees more particularly, there are limes, shaddocks, plantains, oranges, papaws, custard apples, mangoes, mangosteens, figs, grenadillas and



PLOUGHING PADDY-FIELDS IN THE SWAMPY LOWLANDS

There are vast stretches of low-lying swampy ground in Ceylon naturally suitable for rice cultivation. It is ploughed with a primitive wooden plough, the frame of which is not much larger than a man's arm, and purposely made light so that it may not be unmanageable in the mud. The ploughs are drawn by buffaloes, who supplement the operations of the crude machines by their own tramping.



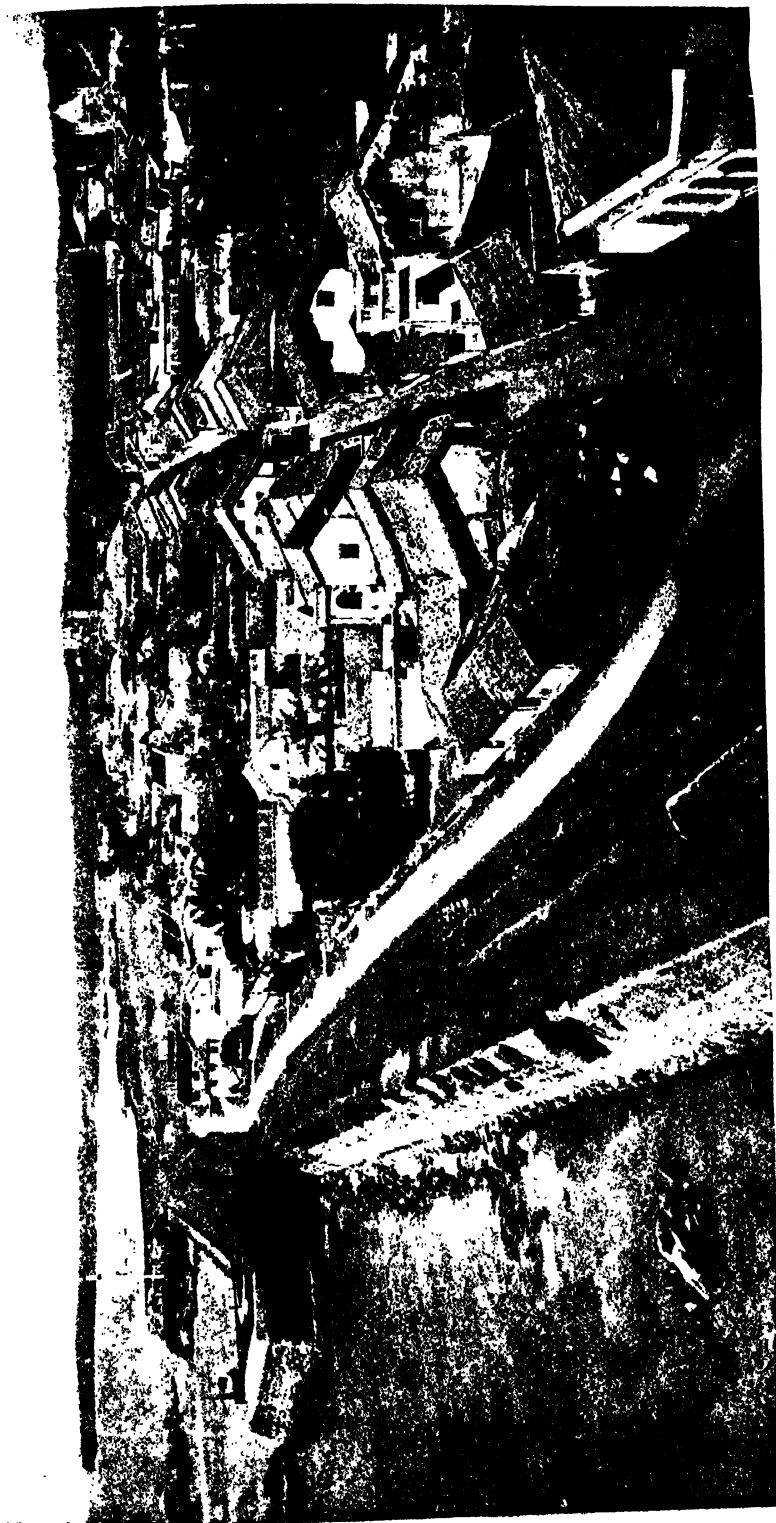
TEA-PLUCKERS ON A PLANTATION MUSTERED UP FOR PAYMENT

Tea plucking is an art that requires careful teaching and constant supervision. Women become more adept at it than men and can earn what they regard as high wages. Each plucker is supplied with a basket which holds about 14 lb. weight when full. A transport basket at the end of each row of trees receives the contents of these and takes them to the factory.



ENCHANTING RIVER SCENERY ON THE KALU-GANGA BETWEEN RATNAPURA AND KALUTARA

Some of the loveliest scenery in Ceylon is to be found in the small township of Ratnapura, capital of the province of Sabaragamuwa, and centre of the native spinning industry. Between here and Kalutara, a little lower down the Kalu-ganga, flows between banks brilliant with colour and beauty of flowers, the river of the province. The banks are a fine forest of trees, and the river is joined by a stream of water from the hills of the eastern part of the province.



GENERAL VIEW OF GALLE, FROM TIME IMMEMORIAL A COMMERCIAL SEAPORT OF CEYLON

Galle is the chief town of the Southern Province of Ceylon and seat of the provincial government. It is supposed to have been the Tarshish whence Solomon obtained gold and ivory and owing to its geographical position has always been an important commercial centre. Modern Galle was founded by the Portuguese in 1518. Later it passed into possession of the Dutch, of whose occupation traces remain in the fort surrounding the town and the old Dutch church. Under British occupation it enjoyed much of the steamship trade until the harbour at Colombo was constructed, since when its importance as a seaport has declined.

many others, to be plentifully enjoyed. Flowers are met with in profusion, Ceylon being particularly celebrated for its flowering shrubs. Grander than these are the flowering trees, the tulip tree (*suriya*) with its rich, red blossoms and the cotton with its thick, silky petals. The *datura* is a delight to the eye with its convolvulus-like blossoms, snowy-white at morning, turning pink and purple as they fade; and perhaps most distinctive is the rightly named *gloriosa superba*, which at a distance looks like a scarlet honeysuckle. There are orchids in the jungle, though these are not so celebrated as those of Burma. Of course the lotus, white and pink, plays as great a part in temple worship here as in Burma.

How Tea Supplanted Coffee

Thus we come to the cultivated products of the estates, of which the principal used to be coffee until the coffee disease first noticed in 1869 brought wide-spread ruin. *Chinchona* plants quinine enabled some planters to weather the storm of adversity that followed; in time tea took the place of coffee, and in 1876 the first seeds of the Para rubber were introduced, thereafter to become one of the main products of the island. Tea of which it is only true to say that it makes the hillsides unlovely when the jungle growth has been replaced by its prim rows of bushes is largely grown as well as rubber, and there are supplementary products such as cacao and pepper and cardamoms.

Rubber, Coconuts and Rice

The area under tea is about 418,000 acres, of which nearly one half is in the Central Province; in fact, nearly all the tea districts might be enclosed in a triangle having its base on a line drawn from Kandy to Adam's Peak, and its apex on Badulla, though attempts are now being made to grow it in the low ground near Colombo.

The ring of rubber-producing districts lies mainly to the west of this, extending

widely outwards with a base on Nallanda at one end and Matara on the other, though, of course, within such an area there are many large spaces not so cultivated. The estates cover some 33,230 acres, mostly in the Central Provinces to the north and west of Kandy.

Coconuts naturally bulk largely in the exports, the area under their growth being 820,000 acres; this lies beyond the rubber districts down to the coast on the west and south, and fringes the eastern coasts.

The largest and most important item, as it affects the food of the bulk of the people, is naturally paddy. Ceylon cannot fulfil its own requirements in rice, with the exception of the district of Batticaloa. Apart from this, Ceylon is obliged to import largely from India and Burma, and less from the Straits. She requires about 30,000 tons monthly above what she can produce. Paddy is cultivated on the terraces of the lower and rising lands wherever possible. It depends so much on abundant irrigation that the quantity varies with the monsoon rains. There are two principal crops, the *yala* and the *maha*, annually, and the cultivation is mainly in the hands of small growers. The area under cultivation is about 850,000 acres.

Big Game and Its Protection

Among the largest indigenous beasts of the island are the elephant and the *tsaing* or bison. These are found wild in the jungle and wide grassland bordering the tanks. The sport of shooting wild game is regulated, and with the exception of a "rogue" which has been proclaimed and can be shot wherever found, special licences are necessary for shooting elephants. They are caught by means of the *kraal* or *keddah* by the authorities. The bison are also to be shot at a farm, though for a period it was necessary to protect them to prevent extermination. The ordinary game licence includes *sambhur* and various other kinds of deer—barking, paddy-field, etc.—peafowl, partridges and so on. No licence

is required for sloth bear, leopards, crocodiles—which abound in the tanks—jungle fowl, snipe or teal. There are three game reserves or sanctuaries maintained in the island.

In addition to the above-named animals there may be noted the monkeys, flying-foxes, tortoises, porcupines,

Salt is a government monopoly and an important revenue-producing article. There are salt pans at Hambantota in the south, and others at Puttalam, north of Trincomalee, and elsewhere. The two first-named places are responsible for far the greatest part of the output, which, taken altogether,



LOADING WAGONS AT A TEA FACTORY WITH CHESTS FOR EXPORT

After the total failure of the coffee plant from disease in 1882, tea began to be grown by the planters, and in 1923 the approximate area devoted to it was 418,000 acres. Nearly every plantation has its own factory where the leaf passes through every stage of preparation—withering, rolling, fermentation, desiccation, sifting, bulking and packing. Tea is now the chief source of Ceylon's prosperity

chameleons, snakes not many of these, mongooses and other creatures, besides the wonderfully varied and ornate birds from the minute honey-birds to the birds of paradise, with their striking long, tufted tails, the glorious kingfisher or laughing jackass tribe, the black and white Ceylon robin, the egret, flamingo, hornbill, crows, owls and an infinite variety of others.

Among the "poochies" (local word for insect) must be named the extraordinary leaf and stick insects, the brilliant fireflies and, at certain times of the year, huge flights of butterflies.

represents little more than the annual consumption of the island.

Railways are also run by the government, and considering the enormous difficulties encountered in construction are run very well. There is a coast line from Chilaw (extension to Puttalam) and to Matara (extension to Hambantota); an inland line up the Kelani valley from Colombo; and the Kandy line, with its narrow gauge extension to Nuwara Eliya. From Kandy a short branch goes also to Matale. The main line north branches off from the Colombo-Kandy line at Polgahawela junction,

passes due north by the ancient city of Anuradhapura (where there is an hotel under the government supervision) and finally divides into two branches, one to Adam's Bridge for the short crossing to India, and the other to Jaffna and the coast, in the extreme north.

The roads in Ceylon have always been renowned for their excellence, and though narrow in all but the most important sections, are of very sound construction. Motoring all over the island is possible. The road system will ever be associated with the name of Thomas Skinner who, a mere child (fourteen), came out as ensign in the beginning of the nineteenth century and when in command of a detachment up-country was told to make roads at a gradient of not more than "one in twenty." The boy had not the least idea what this meant and was wholly without a surveyor's training, but he was too proud to ask and, learning by degrees, was eventually responsible for the excellent roads to-day existing.

Graphite is the chief of the mineral products of the island, though perhaps the precious stones found in its soil have been responsible for more glamour than even the glorious scenery or exceptionally interesting ruins. The stones found

include sapphires, rubies, spinels, beryls, topaz, amethysts, moonstones (peculiar to Ceylon), garnets, cats-eyes, tourmalines and others.

The pearl industry has also created for itself a halo of romance. With the exception of seven years from 1903, when these fisheries were leased to a private company, they have been in the hands of the government. At one time they were renowned throughout the world, then without any apparent reason pearl-bearing oysters disappeared. These barren periods lasted for varying numbers of years, while better harvests intervened, the most profitable time being from 1903 to 1907; since then the yield has been disappointing.

Three-fourths of Ceylon's imports in 1922 were supplied by Burma, British India and the United Kingdom in that order, Burma leading the list because of her imports of rice. But the United Kingdom heads the list as a buyer of Ceylon's exports.

The extreme attractiveness of the island needs no comment. Visitors who stay there will find in climate and scenery all that they could desire. There are excellent hotels in the larger towns and rest-houses under government supervision at any place of importance.

CEYLON: GEOGRAPHICAL SUMMARY

Natural Divisions. North, lowland, corresponding with the lowland of Madras and connected to it by the islands and coral reefs. South, mountainous and of volcanic character, corresponding with the mountains of the south Deccan. The island as a whole is a detached fragment of the Deccan (v. India and India, southern).

Climate. Tropical in temperature. The mountainous south has monsoon rains May to September, cf. Bengal; the lowland north is less rainy and has monsoon rains and also trade wind rains from the north-east in the autumn, cf. Madras.

Vegetation. Palms around the low coast, whence jaggery, coconuts and copra. Forest on the slopes, whence ebony, satinwood and mahogany. Jungle in the rainiest areas and pasture-land on the cool uplands of the mountains.

Products. Rice (paddy) for local consumption; quantity insufficient, hence

imports from Rangoon and Calcutta. Tea, about one-sixth of the world's supply chiefly for export, grown with the help of imported coolie labour. Rubber, castor, quinine, pepper and cardamoms in competition with the Federated Malay States and Java (v. Malaya and Malay Archipelago). Graphite and many precious stones are mined.

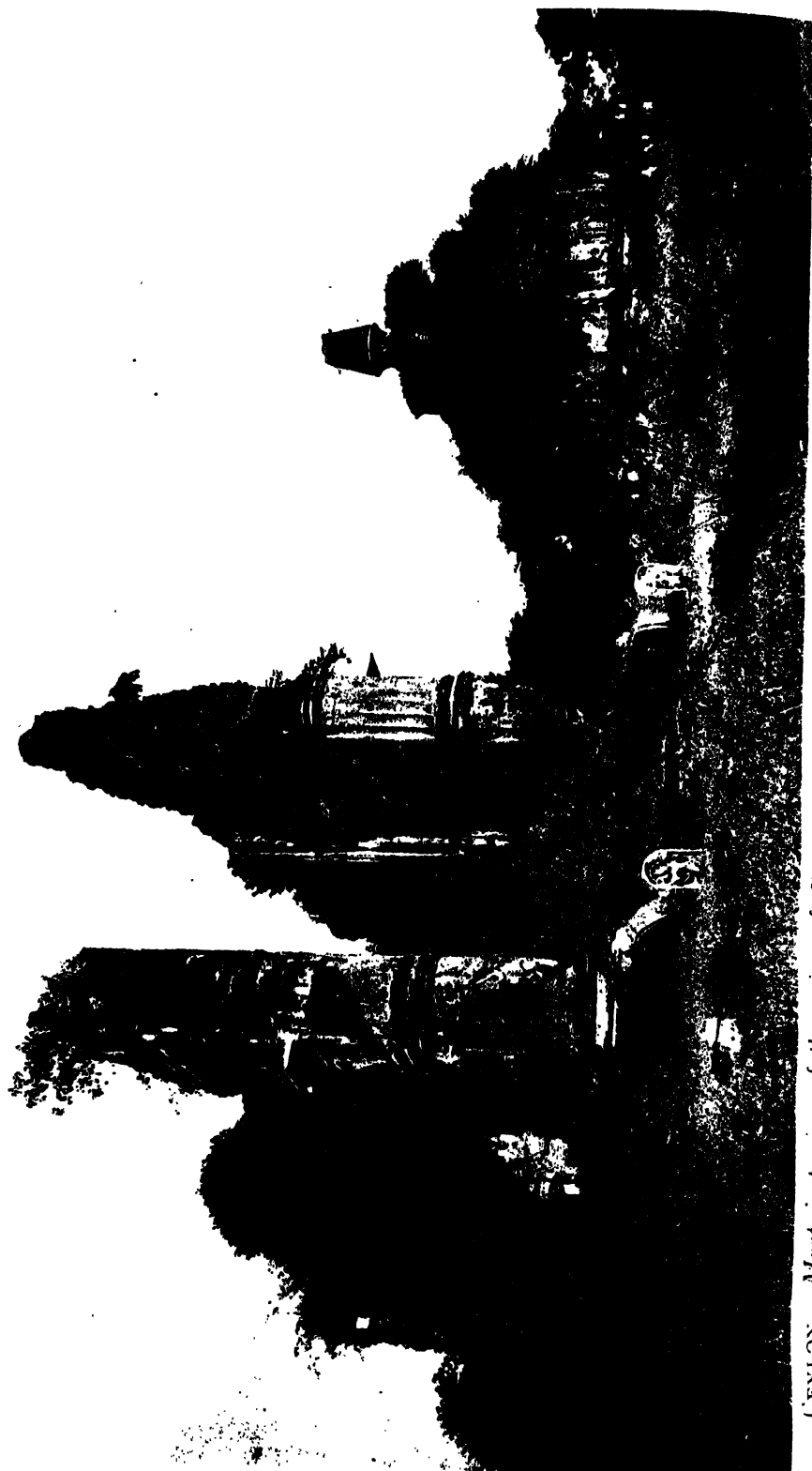
Communications. Good motoring roads. Useful railways on two gauges. Local steamboat service to Madras ports and ferry service at Adam's Bridge. Colombo vies with Cape Town and Singapore as a great coaling port and calling station on the seaways to the Far East.

Outlook. Ceylon is a tropical island exploited by Europeans with the help of imported migrant labour. Its future rests on the continuance of this prosperity and the consequent infiltration among the native peoples of higher standards of comfort and education.



Kenneth Comyn

CEYLON. *From the top of the lighthouse clock-tower at the intersection of Chatham and Queen Streets a fine view over Colombo is obtained*



(EXLON. Most imposing of the ruins of Polonnaruwa, the old Sinhalese capital, is the red-brick, lime-coated Jetavanarama, 170 feet long, with turrets flanking the entrance. Near it is the "milk-white" dagoba



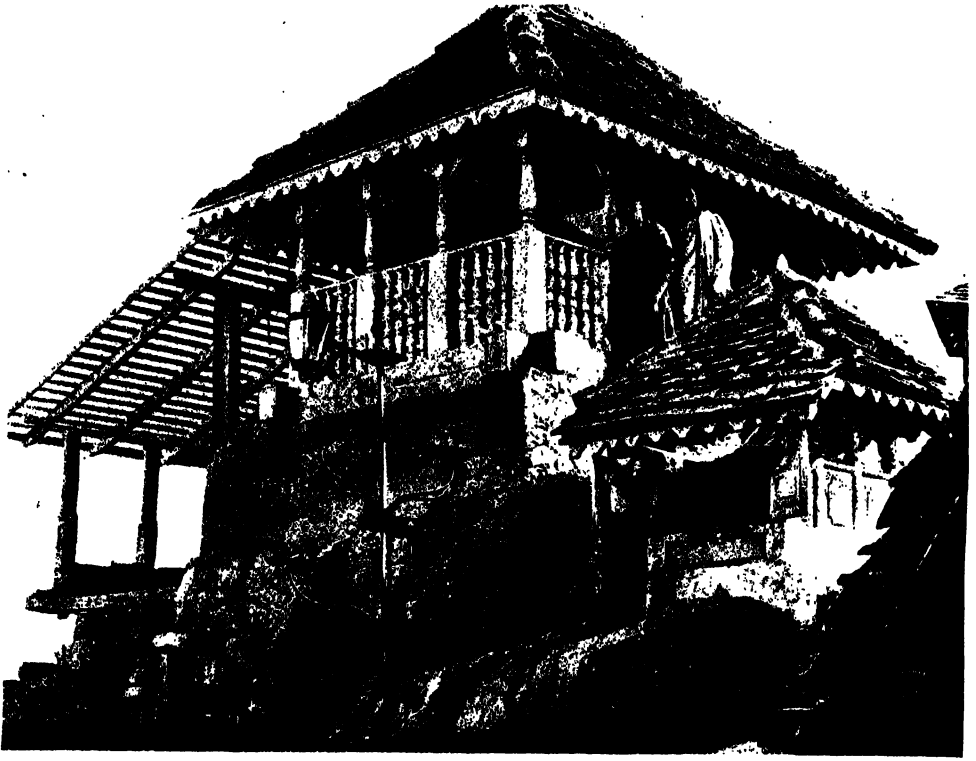
CEYLON. On the great red granite mass of Sigiri, the lion rock, rising sheer from the jungle 400 feet below, King Kasyapa built an impregnable fortress palace reached by a bastion-guarded stairway



Underwood
CEYLON. *In the hill country every valley and many a terraced hill is made to yield its crop of rice by the industrious Kandyan villagers*



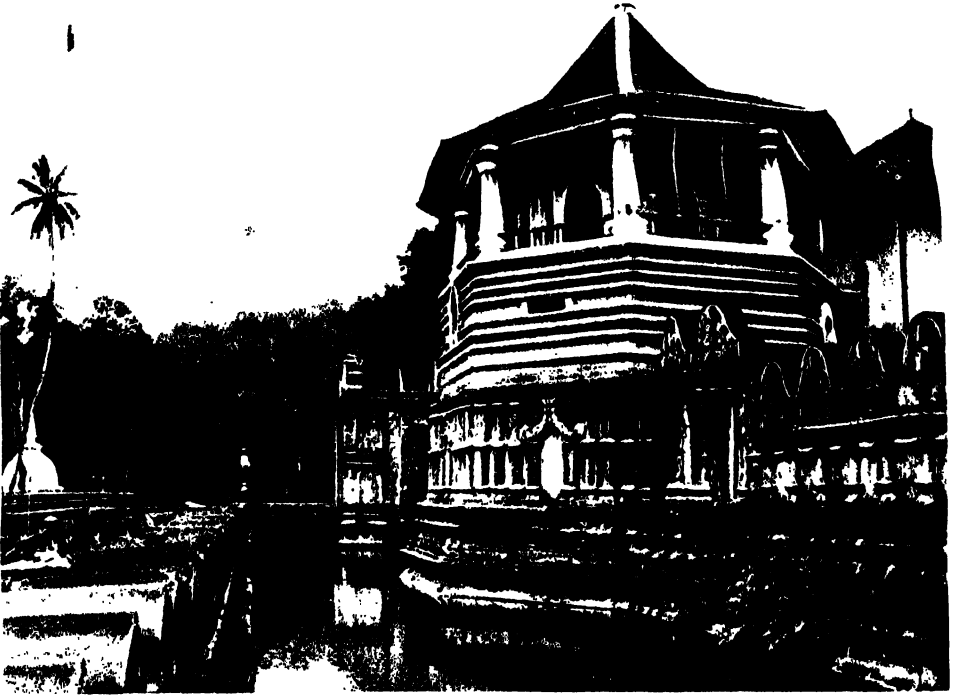
CEYLON. *Waterfalls of incomparable beauty, like these Bamboda Falls, are an enchanting feature of the heights above Nuwara Eliya*



Buddhist monks guard the wooden canopy over the impression on the rock at the top of Adam's Peak venerated as the footprint of Buddha



CEYLON. Four statues of priests and one of King Dutugemunu are among the ruins of the vast Ruanweli Dagoba at Anuradhapura



F. Deville Walker

Sacred tortoises swarm in the moat outside the wall that encloses the Temple of the Tooth at Kandy with its priceless relic of Buddha



R. N. A.

CEYLON. Prettily set by the lake in Slave Island, and opposite the General's House, this little Buddhist temple is a show-place in Colombo



Ewing Galloway

CHICAGO. *From the colonnade fronting Grant Park, Michigan Avenue, Chicago's noblest thoroughfare, runs in fine perspective*

CHICAGO

Teeming Hive of American Industry

by Sir John Foster Fraser

Author of "America at Work"

CHICAGO is situated in the north-east of the state of Illinois, at the mouth of the Chicago river. With a population of 3,000,000 it reckons itself the fourth largest city in the world. There is no hustling young inhabitant of Chicago who does not confidently expect that he will live to see it the capital of the world, with New York toddling in its wake and effete London nearly out of the race.

No city on earth has grown at the speed of this great place spreading over 200 square miles on the western shores of Lake Michigan. A century ago it was almost beyond civilization, a little outpost called Fort Dearborn a couple of thousand residents fighting Indians and trapping furry animals. Now it is big and noisy with ugly streets in the centre and delightful boulevards radiating miles into beautiful country; a mighty jostle of stock-yards and parks, of mean rookeries and gorgeous avenues, great factories in a frenzy of production and institutions for art and culture, with the finest opera season in the world and much gambling in wheat: a city of viciousness and crime and yet with standards of idealism as noble as can be found in the whole of the United States. It is the most complex and contradictory city that I have ever visited.

America's Most American City

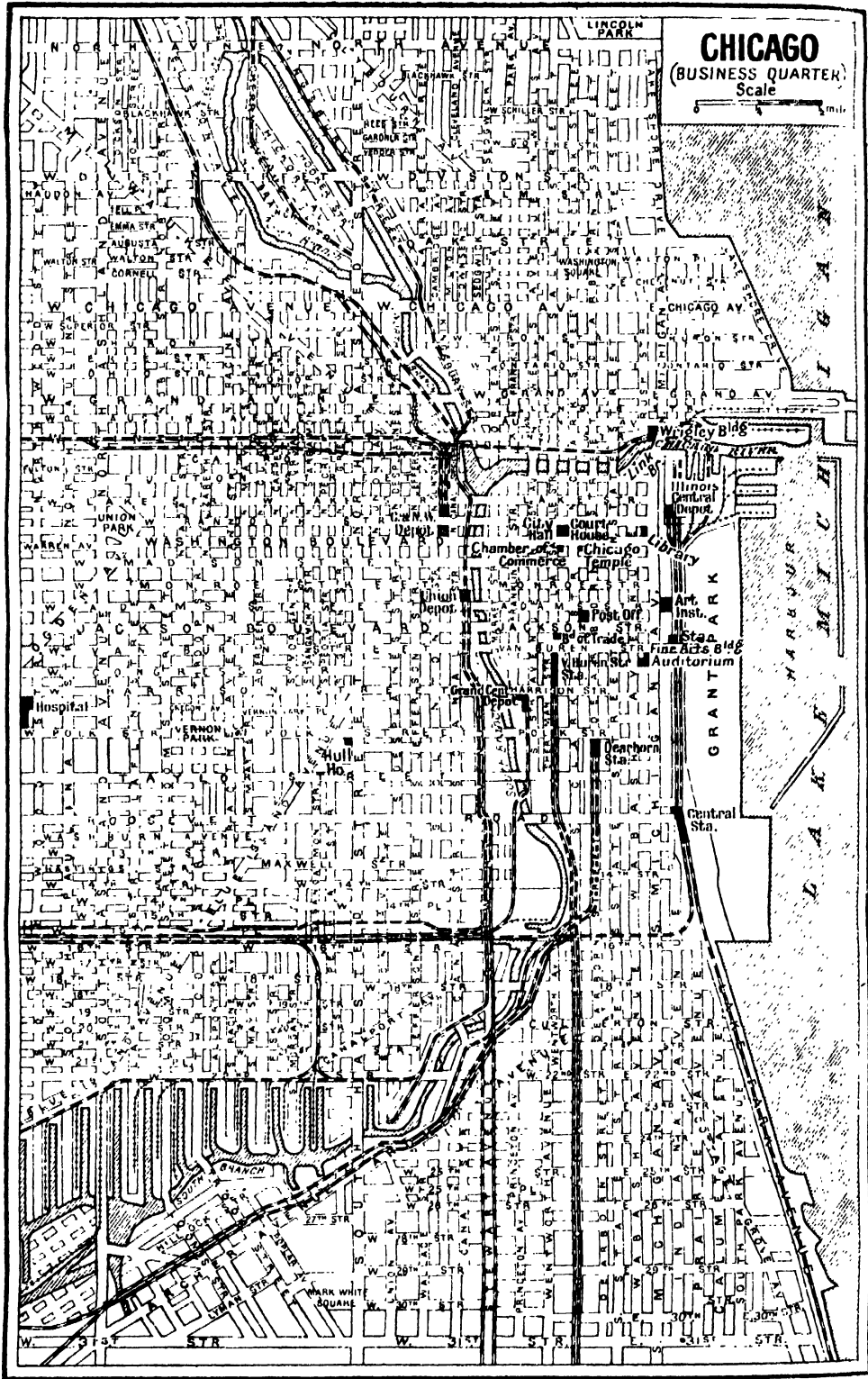
I would say that Chicago is more typically American than New York or Washington or Boston or St. Louis or San Francisco, because it is so young and virile and is a magnet to tens of thousands of discontented, adventurous Europeans who want to break with old conditions and traditions and know

that America is the land of opportunity. Joseph's coat of many colours was not so varied as the many races you encounter when walking along the magnificent Michigan Avenue, or in the ever thronged and clamorous State Street, or out in the regions neighbouring the "yards" where there are millions of cattle and sheep and pigs from the western prairies which are being swiftly converted into food and canned and dispatched to all countries.

The Babel of the New World

Of its population of 3,000,000 only 642,000 are of native parentage, while there are 2,358,000 of mixed parentage and over 883,000 of foreign parentage. It is unusual to meet anybody who was actually born in Chicago. Though there are over 1,000,000 persons in Chicago born in the United States of foreign stock, there is an enormous number of residents born overseas: Poles 137,000; Germans, 112,000; Russians, 102,000; Italians, 59,000; Swedes, 58,000; Czecho-Slovaks, 50,000; and tens of thousands of Irishmen, Greeks, Lithuanians, Norwegians, and lesser numbers from practically every land on earth, including Asia and Africa. The negro population inhabiting Chicago exceeds 100,000.

Besides the natural increase in population each week brings new arrivals. Everybody who comes is expected to show his affection for America by "taking out his papers" and becoming a naturalised citizen. The argument is that you ought to be a citizen of the country where you earn your living. Things are not easy for a foreigner who is engaged in business in Chicago and refuses to become a naturalised

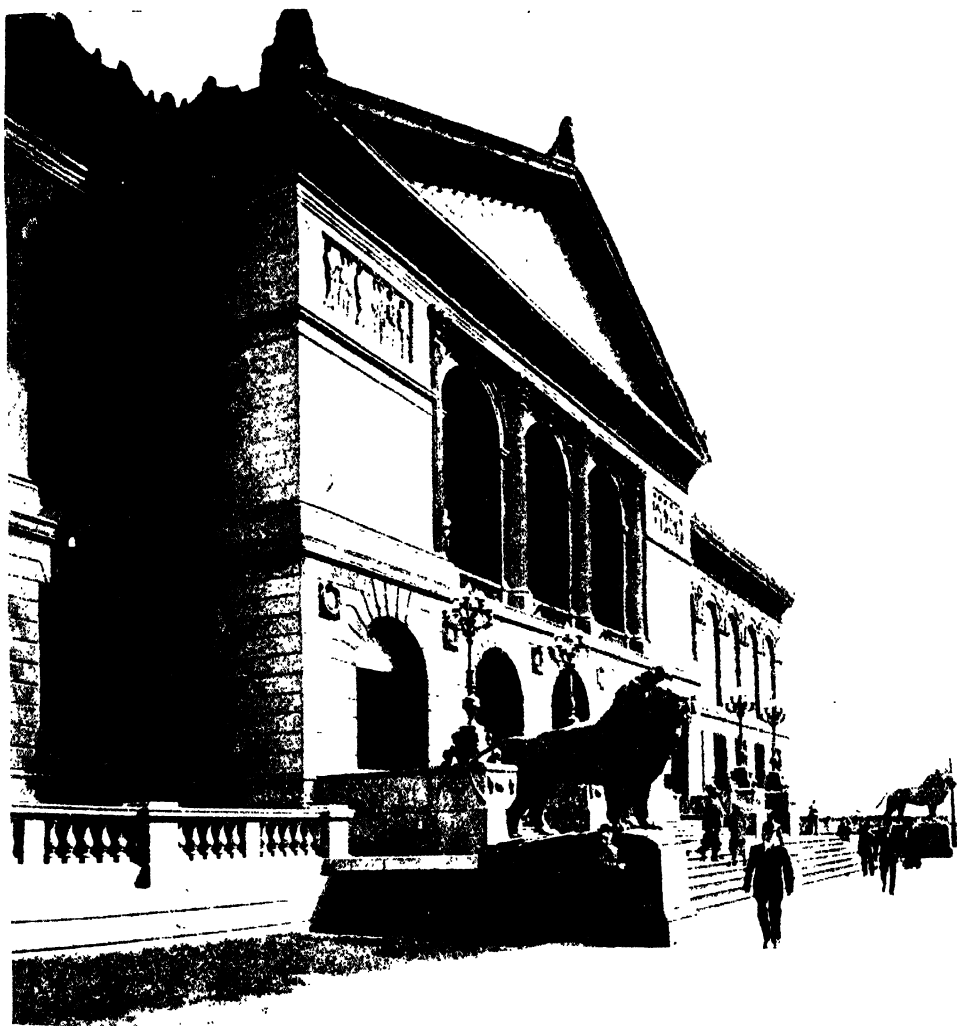


CENTRAL DISTRICTS IN CHICAGO'S 200 SQUARE MILES OF CITY

citizen; yet there are some 336,000 residents in Chicago over 21 years of age registered as "aliens," though most of these, it must be said, are newcomers who have not been able to complete the formalities of naturalisation.

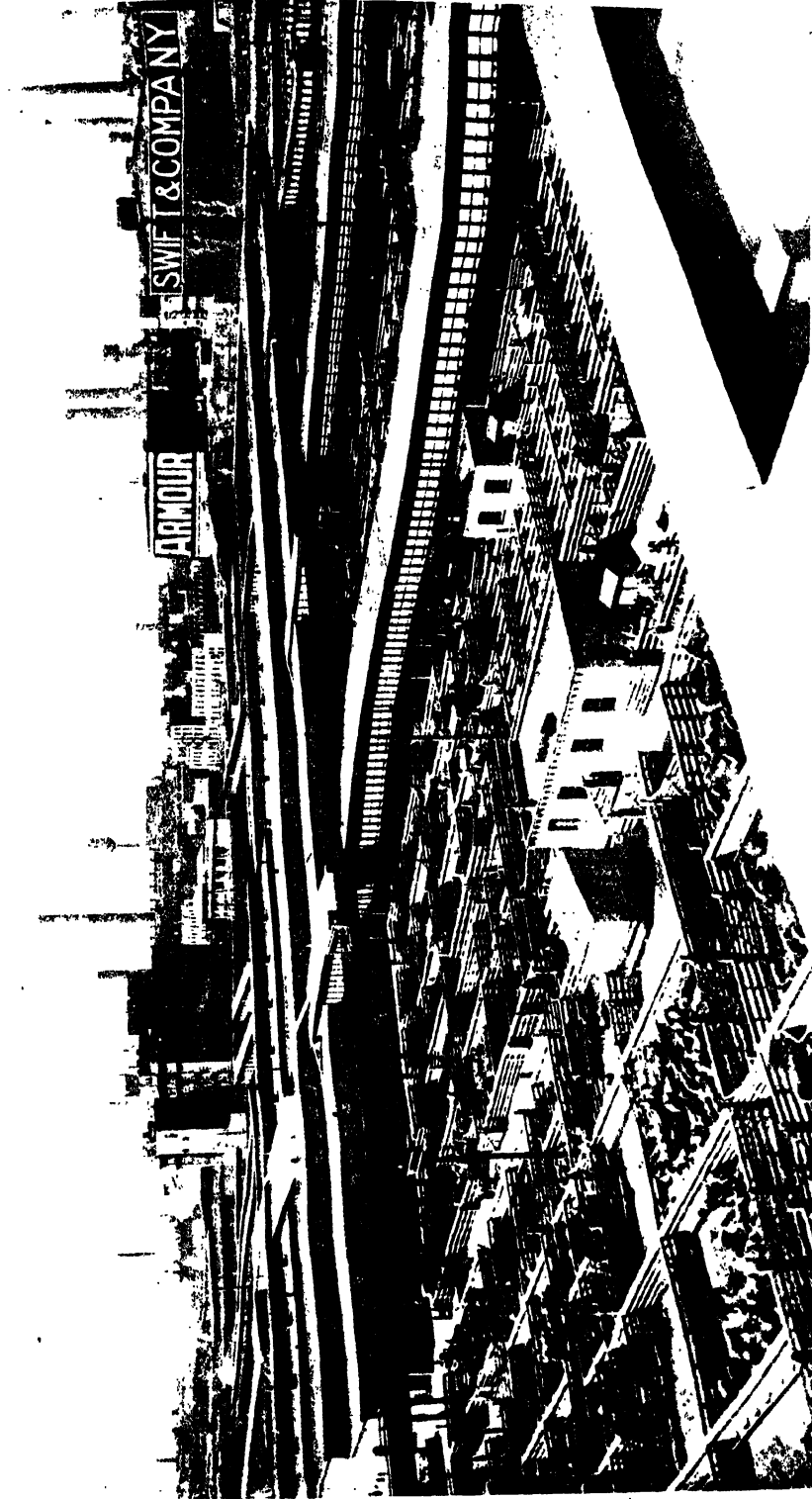
There are many friendly racial associations, particularly among the Germans, and sometimes bitter race antagonism, as in 1919, when there were terrible riots against the negroes who during the Great War had journeyed from the Southern States for industrial reasons and, desiring higher wages,

refused to go back and so became objectionable to their white-skinned neighbours. Yet the demonstrations of loyalty among all sections of the mixed population is remarkable. It takes shape in flag-waving to an extent quite unknown in any other country. I was in Chicago on Armistice Day, 1918, and the place seemed canopied under the Stars and Stripes, while the streets surged with excited patriots frenziedly waving the national flag and wearing the legend in their hats: "The Yanks Did It!"



LION-FLANKED FRONTAGE OF CHICAGO'S ART INSTITUTE

one of the buildings in Chicago that substantiate the city's claim to be a centre of art and intellect is the Art Institute, standing on the right-hand side of Michigan Avenue as one goes northward. It is a noble structure built in a style of its own—more classical than anything else—and was erected in 1892 after designs by Charles A. Coolidge; within is a very valuable art collection.



Being Gaild way

HUGE EXPANSE OF THE UNION STOCKYARDS RINGED WITH THE CHIMNEYS OF THE PACKING-HOUSES

Whatever else may be Chicago's boast, it will be long before the name of the world comes to associate the vast stockyards and packing houses from which she derives such a large proportion of her wealth. The site off South Halstead Street, with its five miles south-west from the centre of the city, the stockyards covering an area of over 500 acres including nearly 20 miles of feeding and watering tracks. In one year on an average they deal with about 4,000,000 head of cattle, 2,000,000 sheep and 2,000,000 horses.



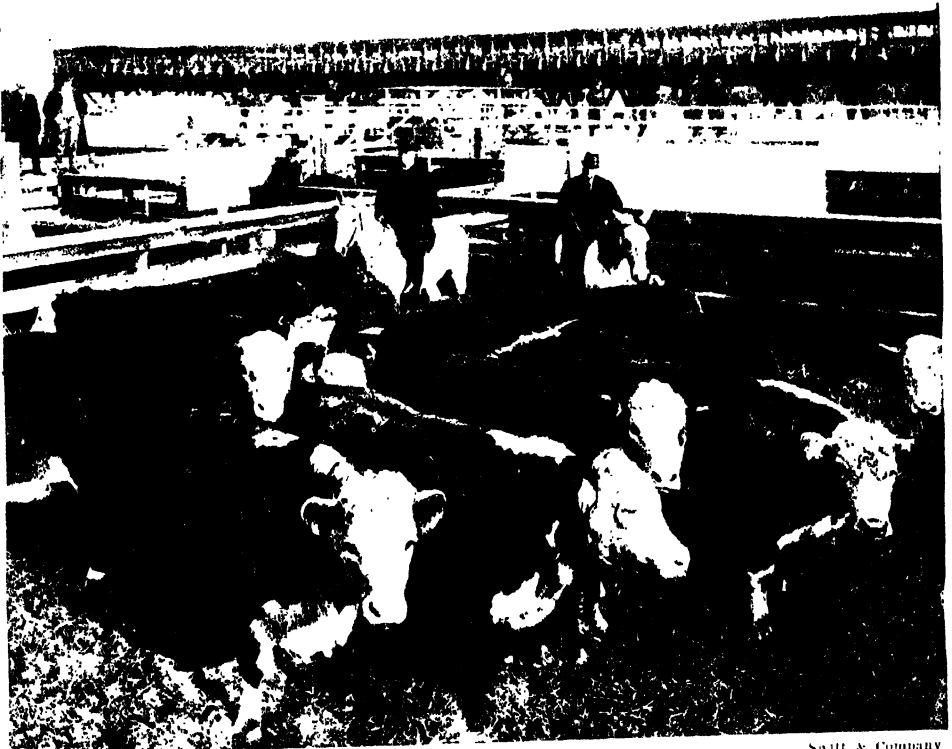
SERIALIZED ROWS OF CARCASSES IN A PORK-COOLER OF ONE OF CHICAGO'S LARGEST PACKING FIRMS Swift & Company

Within the packing-houses of the Union stock yards the carcasses are often as gruesome as they are impressive—more so in the slaughter-houses than here in a pork-cooler. About 25,000 pork carcasses are packed here each day. Besides chilling and curing the carcasses, they are also packed in ice. A carcass has to be packed in ice before it is shipped. The carcasses are packed in ice in a way that they can be covered with a blanket and a new paper of their own.

The place is an ethnological museum of races with not much amalgam by marriage taking place, except among those who may be described as belonging to the second-grade races. But they all share in pride of nationality. This is often demonstrated by men and women whose fathers and mothers came from Sweden or Ireland or Germany and have "made good," showing open contempt for poor new arrivals and constantly declaring that America should be reserved for Americans and not be the refuge of so many aliens! Of people over 45 years of age the number of married men compared with married women is in the proportion of 70 per cent. to 57 per cent. There are about 40,000 widowers and 110,000 widows, 6,000 divorced men and about 9,000 divorced women.

It is a city of tremendous energy, due partly to the courageous stock from which most of the population is made up and partly to the healthy, stimulating climate, though the variations in temperature are great, the heat in the summer being often that of India and the cold in winter being as cruel as that of Siberia.

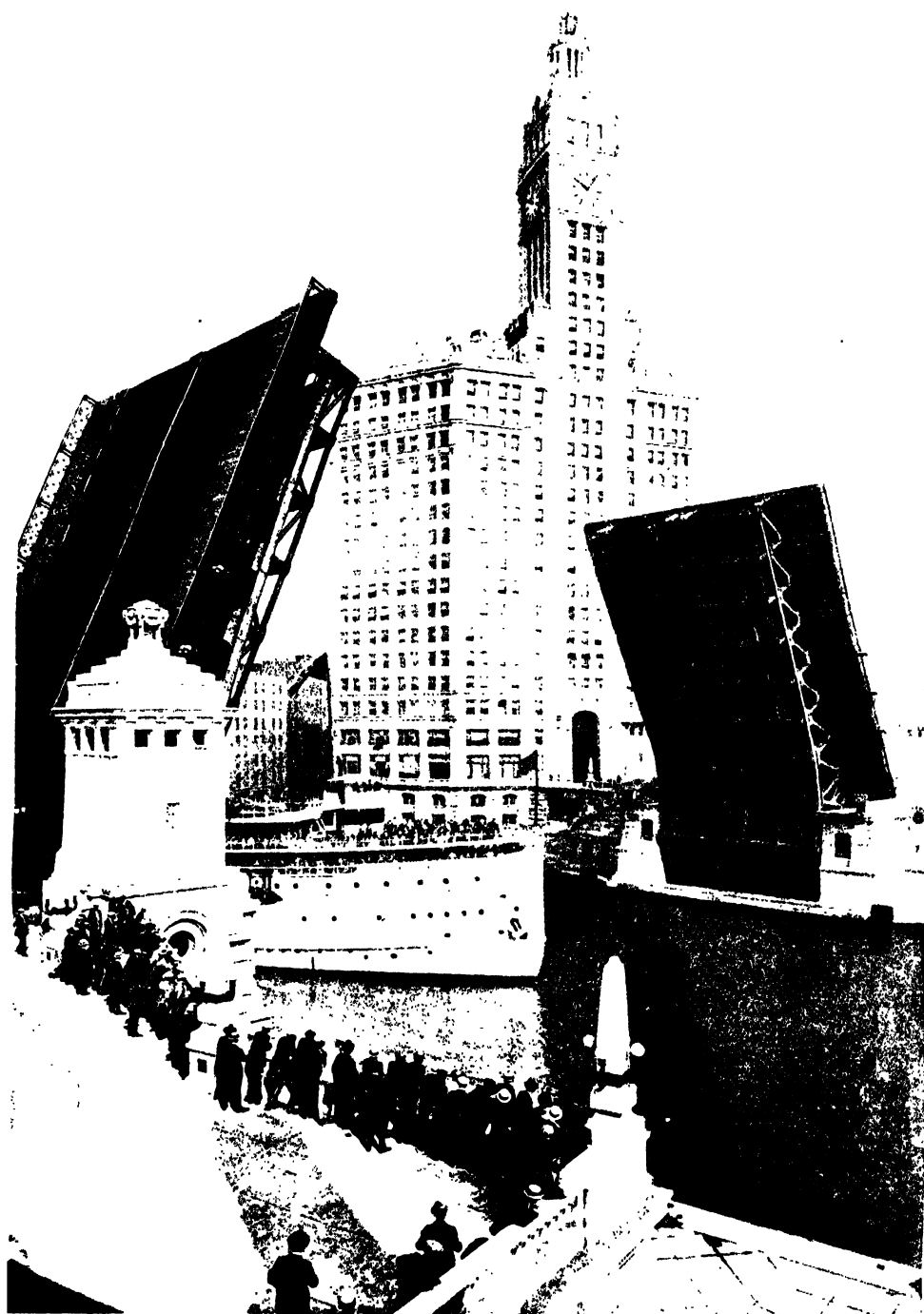
There is little in the way of grand scenery apart from the impressive expanse of Lake Michigan; but hard pressing and initiative have provided some 84 miles of boulevards. Western Avenue is 23 miles long which are as fine as anything Europe can show. There are beautiful residential districts with houses which are the acme of all that can be provided in luxury and modern conveniences. On the other hand Chicago has wretched



SWIFT & Company

HERD OF PRIZE SHORTHORN CATTLE IN THE STOCKYARDS

Although roughly three-quarters of the cattle and hogs are killed in the Chicago stockyards, paid on the spot and exported as meat, the place also serves as a centre for cattle deals; the scene above is the inspection, with a view to purchase, of a herd of prize shorthorns. At any given time yards can accommodate in the neighbourhood of 450,000 head of cattle, hogs, sheep and 1



WRIGLEY BUILDING WHERE MICHIGAN AVENUE CROSSES CHICAGO RIVER

Chicago river used to empty into Lake Michigan; since the construction of the drainage canal to the Desplaines river in 1889, designed to prevent the city's sewage from fouling the lake water, its flow has actually been reversed. Here is the Michigan Avenue Link Bridge with the Wrigley Building behind it—a substantial skyscraper for one that may be said to be reared on chewing gum

and even ghastly slums where there is sweating and where conditions of life are more savage than in the most forlorn regions of the East End of London.

Chicago is the commercial if it is not the financial capital of the United States. The popular, ignorant belief in other lands is that its chief purpose is turning a thousand pigs into sausages every seven minutes, and cheap humorists call it "Porkopolis." Among certain folk in New York there is a disposition to regard Chicago as raw and rather vulgar, and more than once I have encountered Chicagoians who have scoffed at New York as being decadent and un-American.

There is an unparalleled zest for money-making in Chicago, pursued tirelessly, relentlessly, and diamond cut-diamond is all part of the game. While we hear of dramatic conspiracies which are abnormal, and often explode with a devastating bang, we do not hear much of the sterling honest forceful initiative which is the real cause of Chicago's prosperity. The people are proud of the city for the best of all reasons: most of them arrived poor, and when they are well-to-do, while they do not minimise their own qualities, they are aboundinglly grateful to the town which provided them with opportunities.

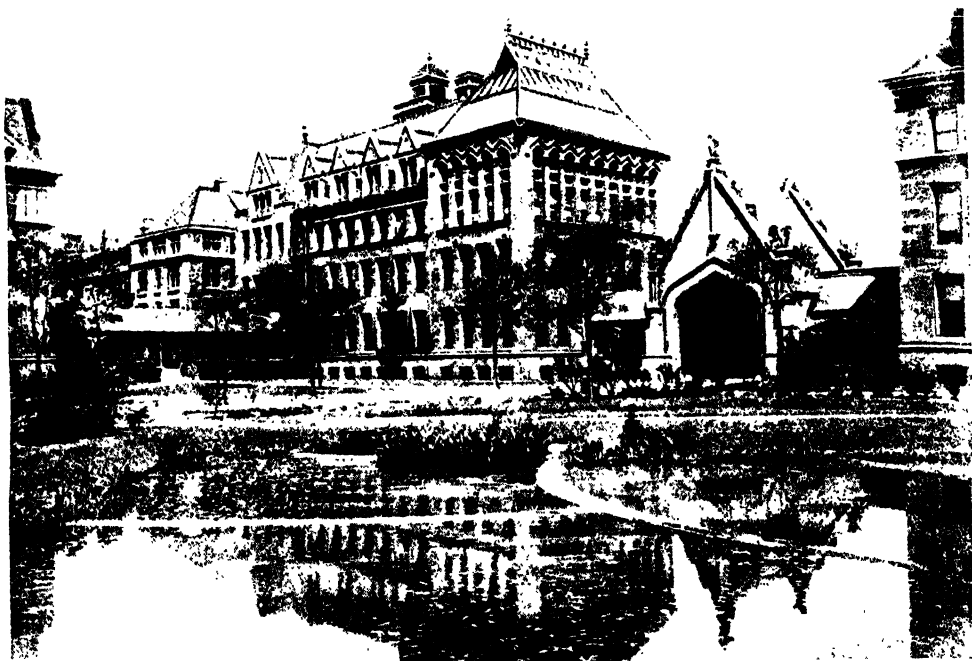
Quite frankly I like Chicago and its people, because they really represent



CHICAGO'S SKYSCRAPER CHURCH

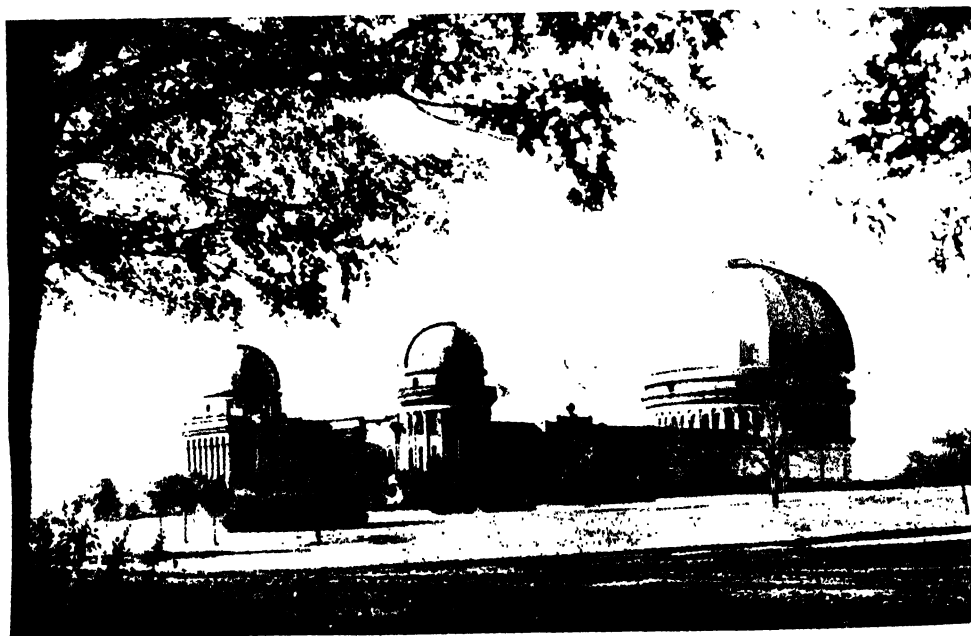
Chicago Temple is the First Methodist Episcopal Church of the city—an extraordinary building of the skyscraper order that only appears to turn into a church about half-way up; it stands south of W. Huntington Street at its junction with Clark Street

the hustle which is generally associated with American life. There are the great industrial corporations, the huge manufacturing concerns, the shirt sleeve gambling on the Board of Trade. One



HULL COURT, A BEAUTIFUL CORNER OF CHICAGO UNIVERSITY

The thirty buildings of Chicago University, with its more than 11,000 students, stand on a plot facing Midway Plaisance between 57th and 59th Streets. The university includes faculties of commerce and administration as well as the more usual branches. This photograph shows Hull Court and Hull Gate with the Anatomy Building; in the foreground is Botany Pond.



YERKES OBSERVATORY, WHERE A VAST TELESCOPE IS HOUSED

About 20 miles to the north-west beyond the confines of the city, so as to escape the murk from the soft coal of its factories, stands the Yerkes Observatory; but although this distance away it is actually part of Chicago University and the seat of its astronomical department. The refracting telescope is among the world's largest and has a 70-inch tube and a 40-inch lens, with a focal length of 61 feet.



AUDITORIUM THEATRE AND THE FINE ARTS BUILDING

At the corner of a block half way down Michigan Avenue, fronting on Lake Park, is the tremendous Auditorium which houses both a theatre and a large hotel. It was built by Sullivan in 1888; and from its tower, 270 feet in height, one of the finest panoramic views of Chicago is said to be obtained. Adjoining the Auditorium on the right is the Fine Arts Building containing the Studebaker theatre

is conscious of the vim of life. Business is started quite early in the morning. The people carry themselves well, and in the main streets, dark because of the adjoining high buildings, ear-achingly noisy and very dirty, there is ever a swirl of humanity whose outstanding note is geniality. My experience is that in Chicago you find the best mannered people in the United States.

Success is in the air. I read statistics that the annual bank clearing is about £732,000,000 which seems a lot of money; that in one year 7,374,260 hogs were "packed," which seems a considerable number, and that the yearly shipping of grain is 120,000,000 bushels, which means a great deal to the feeding of the world. It is in the

Chicago "pit" that the wheat prices of the world are decided.

Chicago with its twenty-seven railway systems is the great distributing centre of the middle west. But there is no congestion. Miles beyond the nine-mile width of Chicago there is a loop intersecting all the railroad lines, and fish-bone gradients, so that supplies may be sent to the great depots where rows of cars are standing, to be loaded and arranged before being despatched on their journeys of hundreds and sometimes thousands of miles. There are the great retail firms which do business entirely by post. Away on the farming lands are millions of people who know nothing about the big towns, but have laudable ideas

about comfort and happy living. They get Chicago catalogues, as fat as telephone directories, and by post they order frame houses or gramophones, dress material or lamp fittings, a piano or a silk shirt. Every year there are millions of orders, and all carried on satisfactorily by post—one of the best monuments I know to the spirit of integrity and honesty which is behind most Chicago prosperity.

Spirit of the University

Quite apart, however, from its force and driving power in "getting a move on" Chicago, as an ever expanding commercial and industrial colossus, has a wonderful civic, literary and artistic spirit with which the outer world seems to be insufficiently acquainted. There is not the repose about Chicago University which there is in Cambridge or Oxford; but while it is alive to the value of the classics and has shown interest in exploring the ancient world, it is characteristically modern, concerned with the things of to-day, in economics, in scientific research and the science of government, and has the aim of equipping young men to face better the struggle of industrial and international competition. Nothing is more inspiriting and significant than to see the way in which young men and women toil, live quietly and save in order that they may provide themselves with a knowledge that is going to be of use to them later on. It may not be seeking culture for culture's sake; in the minds of lads there are often thoughts how "all this stuff" is going to help them on to become millionaires.

Enthusiasm for the Arts

The chief thing, to whatever end they purpose to direct it, is their desire to acquire knowledge. According to the latest returns the number of students attending the University of Chicago is well over 11,000.

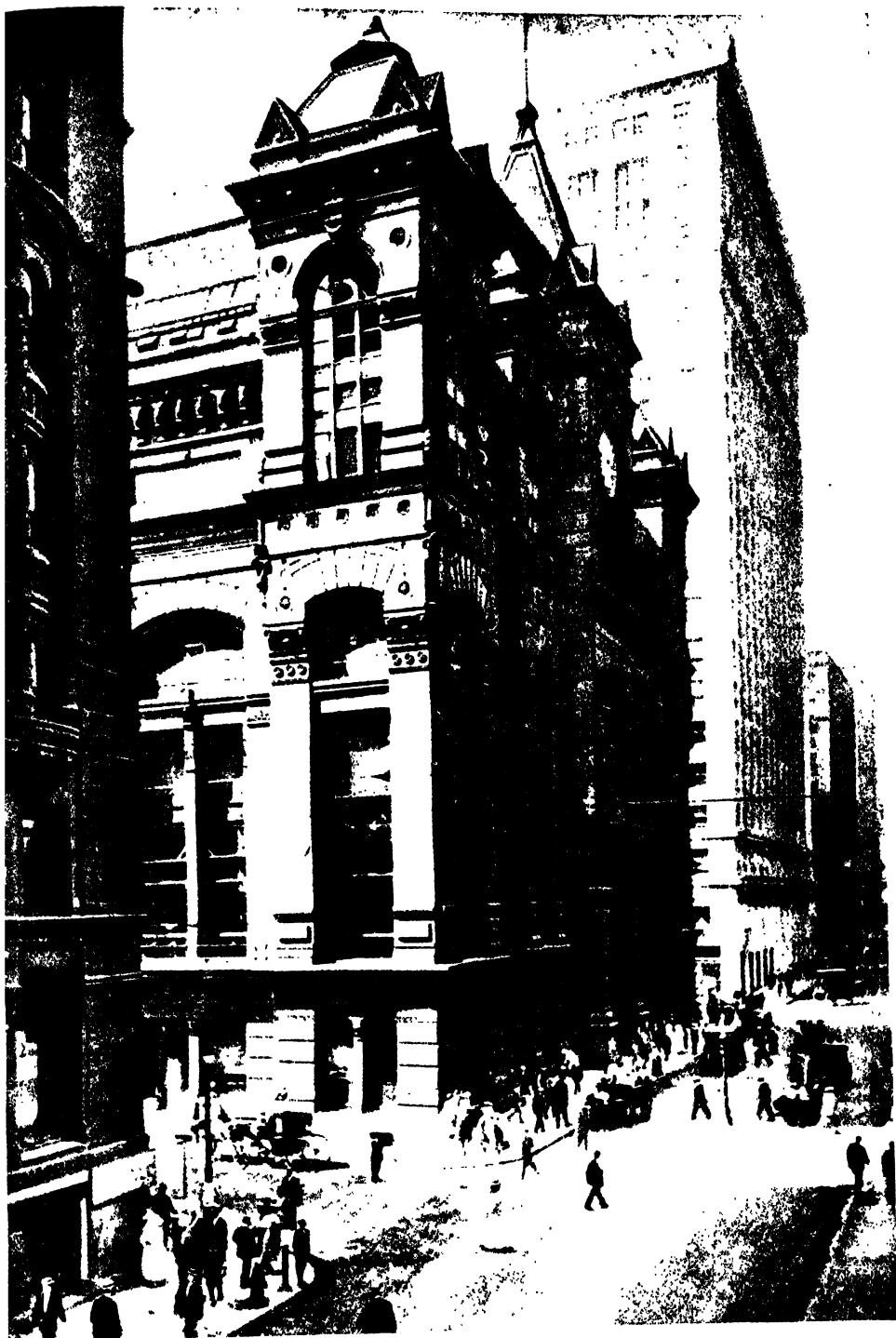
We mostly find what we look for, whether it be in a country, a town or an individual. Some folk who go to

Chicago find nothing but the stench of the stockyards, the greed of materialism and a welter of grimy ugliness within the busy district called "the Loop." There are all these things. But there are other things which are more abiding, for they are the outcome of a definite spiritual longing.

To mention Chicago and culture in the same breath seems like inviting derision. But there is a manifest expression of the artistic sense. Some of it is a pose and one can hear affected nonsense in many parlours but the same can be said about every community. There is a fair-sized art gallery and the quality of the pictures is improving. What is more significant than the buying of famous pictures and hanging them on the walls of a public gallery is the enthusiasm for artistic development, whether it be in painting, in architecture or in house-furnishings. There are societies for the promotion of the arts and I have visited several instructive exhibitions. I turn to a directory and find under "professions" that in Chicago there are more than 2,000 artists, sculptors and teachers of art and 3,000 musicians and teachers of music.

Chicago's Love of Music

Probably it is due to the large German population that Chicago can be reckoned as the most musical city in the world, if one may judge from the exterior criterion, the amount of money that is spent in providing Chicago with the best. Hundreds of thousands of pounds are annually disbursed in attracting the most famous singers and players to Chicago. The Chicago Symphony Orchestra was founded in 1890 and there was built the great Auditorium as a fit place in which to perform. At first it was not a financial success but the orchestra had plenty of backers and, as public taste improved, it "won through." Now each year, during the "season" of twenty-eight weeks from October till April, there are two performances every week, always



PREMISES OF THE CHICAGO BOARD OF TRADE IN JACKSON BOULEVARD

La Salle Street is the full, northward running thoroughfare inland from Michigan Avenue; it starts at Jackson Boulevard and leads over the river towards Lincoln Park. Facing its southern end in Jackson Boulevard stands the Chicago Board of Trade building, whose 322-foot tower is here out of sight on the left; behind it toward the lake are the Post Office and Customs House.



PRESIDENT LINCOLN BY SAINT-GAUDENS

In Lincoln Park at the north end of Lake Drive stands one of the most celebrated works of the famous American sculptor, Saint-Gaudens. It represents President Lincoln; and a replica of it was unveiled in 1920 at Westminster, London.

of high-class quality, and the huge audiences show how they are appreciated.

Then there is the Civic Opera Association of Chicago with a capital of £100,000. To go to the opera is as much a fashionable function as going to Covent Garden in London used to be and the scene of resplendent lavishness on the part of the patrons is almost as dazzling as at the Metropolitan Opera House in New York on a gala night. Chicago can afford to pay the greatest artists in the world, and does. For years opera-goers held Mary Garden in highest favour; "Our Mary" she was called, though, like many other good things, she came from Scotland. Chicago claims that in opera its admiration is more discriminating than that of New York, though the outsider may be

forgiven in recording that he has noticed that what is admired in New York is often coldly received in Chicago, and what Chicago goes "crazy" over New York has been known to regard askance. There is one glorious exception, Galli-Curci, who in a single night sang her way into the rhapsodical hearts of the Chicago people and later, when she "went east," had the same triumph with the people of New York.

There are twenty-seven libraries in Chicago and over 800 newspapers and periodicals are published. There are more daily newspapers than in London and one of them, no doubt due to the exhilarating atmosphere, boldly but without humour advertises itself as "the world's greatest newspaper." Chicagoans, like all Americans, are great newspaper readers, indeed the greatest, and that accounts for a super-

ficiality of knowledge about international affairs which is sometimes flouted. The circulations are infinitesimal compared with those of London's publications, but there is often a daring in dealing with certain aspects of life which startles the man from another country. At times there is a wave of emotional prudery which makes one think that the Puritan Fathers, super-purified, must have migrated in a body to the middle west. Their descendants have periods of zealous sweeping up and campaigns for cleanliness in all its aspects—but the spasms toward establishing universal virtue soon pass.

I have described Chicago as a contradiction. It is also a revelation. Beneath the roar and the clatter of commerce and money-making are to be

and many learned societies dealing with a multitude of scientific and economic subjects where knowledge is pursued for its own worth. I was surprised to be informed by a leading educationist that the poems of Walt Whitman are excluded from Chicago's public libraries because politically he is too "red," too advanced and revolutionary for the patriots who follow the great Decatur's dictum: "My country, may it ever be right; but right or wrong, my country." Yet Chicago has a throng of really splendid book stores where all the latest works, advanced in thought as well as otherwise, are on sale. I have

roamed the world and I can name no other city where there is to be found in the stores such a display of modern literature in all its phases, European as well as American.

Chicago has its seamy and seedy side, mean, foul and repellent. Thousands of the new arrivals, coming straight from the back-yards of Europe, knowing practically nothing of the English language, live in conditions that are not far removed from bestial and there are not a few blackguards who exploit them. Yet there is a noble band of men and women living in "settlements" and engaged in what is called "uplift work."



LOOKING SOUTH DOWN STATE STREET FROM MADISON STREET

The junction of State Street and Madison Street—two great arteries of Chicago, the first running parallel with the lake and the second inland from near the Illinois Central goods depot—has been styled "America's busiest corner"; nor is this an exaggeration, as the city's amazing commercial life is almost all crisscrossed into the surrounding square mile between lake and river.

for the welfare of these benighted, bemused creatures. The success is amazing, for the response is immediate. Indeed it is wonderful what can be done in the space of a couple of years in transforming crude, uncouth Poles and Slovaks into spry, well-dressed and well-behaved Americans.

Clubs for Civic Improvement

There are many fine social clubs and more than once I have had the happiness of staying at some of them. Maybe American clubs are inclined to be too much on hotel lines to suit quieter British tastes, but there is no doubt about the smartness of their equipment, so that by comparison even famous London clubs look old-fashioned and dingy. But Chicago clubs are not mostly confined to social relaxation. Many of them are engaged in civic work, endeavouring to improve conditions in order that Chicago should not have so unenviable a record for crime of all sorts. There are more murders in Chicago in a year than in all Great Britain. I think the best work in improving the status of Chicago is done by women. Women's clubs are active in efforts to keep the municipal government clean.

Yet, though harsh criticism is often passed upon those who control the administration of the city, improvements are constantly in progress. Michigan Avenue is striving to become architecturally one of the noblest streets in the world. There is a very live Chamber of Commerce which I have had the honour of addressing.

Parks and Bathing Beaches

London has beautiful parks, some of them relics of royal grandeur, like Hyde Park, St. James's Park, Kensington Gardens and Richmond Park; but the innumerable parks in and adjoining Chicago have all come into being within living memory. I have been entranced with the parks I have motored through to the north of the city. There are over 800,000 acres of park

lands, including seventy-three municipal playgrounds and five bathing beaches. I can never forget the delightful Lincoln Park, so shaded, so cool, so refreshing in the arid month of August. Then there is Jackson Park with its golf courses, its playgrounds, its sand court for the youngsters and its baths on the shores of Lake Michigan where, in hot weather, there are from five to six thousand bathers every hour and where everything is free—bathing suits, towels and shower baths.

What a jostle Chicago is with its fifty nationalities, its rampant industrialism, its art institutes—the Field Museum are an abiding delight—its low dances, its affection for all that is beautiful, its paganism and its struggle for all that makes a city truly noble.

"Seven-Days-a-Week" Church

Religion is pressed forward with the same feverish, nervous exaltation that characterises everything that Chicago takes in hand. Always there is the desire to add to the glory of America and to make certain that Chicago is well to the fore. There has been erected the Chicago Temple, a towering skyscraper, the First Methodist Episcopal Church of Chicago. It is a seven-days-a-week church and there is ever a hustle to provide fine preaching, to make it centre of "uplift" and particularly to make agreeable the path of grace to the young manhood and womanhood of Chicago. Mr. George W. Dixon, the President of the Board of Trustees, has described the temple as "a school of Americanism, a great, magnetic, dynamic and spiritual centre in the heart of Chicago," open day and night "with a hospitality as wide as the hospitality of heaven."

That is the Chicago spirit. Poor men who have become millionaires in the city leave enormous legacies for the building of churches, for research laboratories, to provide museums, to give lads such as they were a better chance at the colleges and universities. Town pride is almost a religion.



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